



# CITY OF LODI

## COUNCIL COMMUNICATION

**AGENDA TITLE:** Approve 2000 Signal Priority Study and Authorize Design of Signal and Street Lighting at Harney Lane and Stockton Street

**MEETING DATE:** July 19, 2000

**PREPARED BY:** Public Works Director

**RECOMMENDED ACTION:** That the City Council approve the attached Signal Priority Study and authorize the City Manager to execute a professional services contract for signal and street lighting design for Harney Lane and Stockton Street.

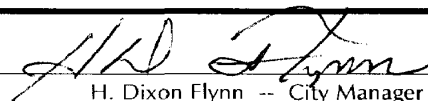
**BACKGROUND INFORMATION:** In 1970, the Public Works Department began a program of studying non-signalized intersections with high volumes and accidents. The primary purpose was to determine if any of these intersections met the minimum traffic signal criteria established by Caltrans and, if so, in what order of priority they should be installed. It also became necessary to prioritize the signal installations when the cost of installing a traffic signal exceeded available construction funds.

The Study is also a good tool to inform the community if and when a signal will be installed when staff receives requests. Since 1970, the City has installed slightly over one new traffic signal per year (**Exhibit A**). Several intersections have been installed based on the study results as well as with new development or major street/interchange improvement projects. Staff uses the list to apply for grant funding, recognizing that the terms of the funding source may favor one location over another. Currently, there are funds budgeted for one signal in the Capital Improvement Project (CIP) for fiscal year 2000/2001.

The 2000 Study included nineteen intersections with fifteen intersections carried over from the 1991 Study. Four additional locations were added by staff based on complaints and our professional judgement. The first task of the Study is to gather daily traffic volumes and review all the reported collisions for each intersection. A collision diagram is prepared that shows the collision details, including the collisions that can be corrected with the installation of a signal. The next task includes evaluating each intersection using the Caltrans signal warrants defined in the Study.

Fourteen of the nineteen intersections satisfied the Caltrans warrants; however, the warrants are guidelines. Normally, this is the minimum criterion at which a signal would be considered. Several other factors were also reviewed, including delay, congestion, approach conditions, driver confusion, future land use, and other evidence of the need for right-of-way assignment. Those intersections satisfying the Caltrans warrants and other factors were then ranked based on the priority method. Points were assigned for the traffic volumes entering the intersection, accident history, speed of traffic, proximity to the nearest existing traffic signal, and special conditions. Details of the priority ranking are presented in the 2000 Study. This priority system was approved by the City Council in 1985. It is used as a guide for seeking funds and responding to inquiries. The scoring results are summarized below. The intersections with an asterisk (\*) were added to the 2000 Study.

APPROVED:

  
H. Dixon Flynn -- City Manager

Staff has applied for funds from several sources, Hazard Elimination Safety (Safe Routes to School), CMAQ, REMOVE, and STP programs. Locations shown in **bold** have grant funding applications pending approval.

<b>INTERSECTION</b>	<b>SCORE</b>
<b>1. Harney Lane and Stockton Street</b>	<b>352</b>
<b>2. Lodi Avenue and Mills Avenue</b>	<b>330</b>
<b>3. Harney Lane and Ham Lane</b>	<b>308</b>
<b>4. Lockeford Street and Stockton Street</b>	<b>307</b>
5. Cherokee Lane and K-Mart south driveway*	277
6. Lockeford Street and Sacramento Street	275
7. Stockton Street and Tokay Street*	242
<b>8. Century Boulevard and Ham Lane</b>	<b>241</b>
<b>9. Mills Avenue and Elm Street</b>	<b>172</b>
10. Turner Road and California Street/Edgewood Drive	143
<b>11. Elm Street and Pacific Avenue</b>	<b>130</b>
12. Cherokee Lane and Tokay Street	109
13. Turner Road and Sacramento Street*	98
14. Cherokee Lane and Elm Street	97
15. Century Boulevard and Scarborough Drive*	N/A, did not satisfy Caltrans warrants
16. Cherokee Lane and Vine Street	N/A, did not satisfy Caltrans warrants
17. Hutchins Street and Pine Street	N/A, did not satisfy Caltrans warrants
18. Lockeford Street and California Street	N/A, did not satisfy Caltrans warrants
19. Pine Street and Stockton Street	N/A, did not satisfy Caltrans warrants

The Lower Sacramento Road and Tokay Street intersection was not included in the Study since a signal will be installed with the Lower Sacramento Road Widening Project.

**Exhibit B** presents a summary and description of the top ten intersections. We have received requests for traffic signals for all of the top ten locations except at one intersection (Stockton Street and Tokay Street). A map showing existing traffic signals and the fourteen locations satisfying Caltrans warrants is attached as **Exhibit C**.

Although the Study provides a systematic process to determine which intersections should be considered for a signal, City Council can choose any intersection for installation in fiscal year 2000/01.

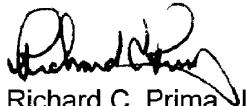
Staff recommends moving forward with the design of a signal at the intersection of Harney Lane and Stockton Street for several reasons. As development continues in this area, the traffic volumes will continue to increase. This intersection is not a good candidate for four-way stop controls given the disparity in traffic volumes for each street. Staff has received several requests for a signal at this location and recently received a tentative parcel map for the one-acre commercial site at the northeast corner. With the development and street improvements at the northeast corner, this intersection is a prime candidate for a traffic signal. The City will coordinate the signal installation with the corner improvements.

Approve 2000 Signal Priority Study and Authorize Design of Signal and Street Lighting  
at Harney Lane and Stockton Street  
July 19, 2000  
Page 3

Upon Council's approval, staff will begin preparation of plans and specifications for the signal installation and necessary street improvements or will seek Council authorization to build the project separately if the development is delayed. Staff would prefer to use a consultant for this design at a cost of approximately \$8,000.

FUNDING: \$120,000 is budgeted in the fiscal year 2000/01 CIP for one traffic signal installation. Regional Impact Fee funds can be appropriated at 50% for several intersections, including Harney Lane and Stockton Street.

Funding Available:   
Vicky McAthie, Finance Director

  
Richard C. Prima, Jr.  
Public Works Director

Prepared by Paula J. Fernandez, Associate Traffic Engineer,  
and Rick S. Kiriu, Senior Engineering Technician

RCP/PJF/RSK/lm

#### Attachments

cc: Randy Hays, City Attorney  
Larry Hansen, Police Chief  
Rad Bartlam, Community Development Director  
Alan Vallow, Electric Utility Director  
George Bradley, Street Superintendent  
Carlos Tobar, Transportation Manager  
Paula Fernandez, Associate Traffic Engineer  
LUSD Police Services – Biglow  
Interested Parties

**2000 SIGNAL PRIORITY STUDY  
TRAFFIC SIGNALS INSTALLED SINCE 1970**

1. Cherokee Ln @ Hale Rd
2. Cherokee Ln @ Lockeford St
3. Ham Ln @ Elm St
4. Ham Ln @ Lockeford St
5. Ham Ln @ Tokay St
6. Ham Ln @ Vine St
7. Hutchins St @ Century Blvd
8. Hutchins St @ Harney Ln
9. Hutchins Street @ Vine Street
10. Kettleman Ln @ Central Avenue
11. Kettleman Ln @ Church St
12. Kettleman Ln @ Crescent Ave
13. Kettleman Ln @ Ham Ln
14. Kettleman Ln @ Mills Ave
15. Kettleman Ln @ Stockton St
16. Lockeford St @ Church St
17. Lodi Ave @ Crescent Ave
18. Lodi Ave @ Fairmont Ave
19. Lodi Ave @ Stockton St
20. Lower Sacramento Rd @ Elm St
21. Lower Sacramento Rd @ Lodi Ave
22. Lower Sacramento Rd @ Vine St
23. Pine St @ Sacramento St
24. Turner Rd @ Church St
25. Turner Rd @ Ham Ln
26. Turner Rd @ Lower Sacramento Rd (North)
27. Turner Rd @ Lower Sacramento Rd / Woodhaven Ln
28. Turner Rd @ Mills Ave
29. Turner Rd @ Stockton St
30. Victor Rd @ Cluff Ave
31. Kettleman Ln @ Beckman Rd
32. Kettleman Ln @ Highway 99 Ramps
33. Kettleman Ln @ Tienda Dr
34. Lower Sacramento Rd @ Safeway

## **2000 SIGNAL PRIORITY STUDY**

### **TOP TEN INTERSECTIONS**

1. Harney Ln & Stockton St

The ranking at this intersection is attributed to increasing daily traffic on Harney Ln (up 4,000 vehicles or 30%), which creates fewer gaps for drivers entering from Stockton St and also the high vehicle speeds on Harney Ln. Drivers stopped south on Stockton St can also experience difficulty seeing approaching westbound traffic due to the alignment of the east leg and unimproved northeast corner (only the NW corner is improved). This intersection is four legged, although the south leg is a dead end county road with approximately 10 residences. The City has recently received a Tentative Parcel Map for a one-acre site on the northeast corner. This map will dedicate the necessary right-of-way so the improvements at this corner will be included with the signal installation.

2. Lodi Ave & Mills Ave

The ranking at this intersection is due to increasing traffic volumes on both streets and relatively high number of accidents. At multi-way stop controlled intersections with several lanes of traffic entering the intersection, it can be difficult at times to determine who can proceed. This may contribute to accidents at this intersection.

3. Harney Ln & Ham Ln

The ranking at this intersection is due to the increasing traffic volumes on both streets, accidents, and high speeds on Harney Ln. Daily traffic volumes entering from both streets increased by 3,500 (30%). The increase in volume on the Harney Ln reduces the number of gaps for drivers making a left turn from Ham Ln. At this intersection, the traffic volumes also increase during the peak periods when students are going to and from Tokay High School. This intersection is currently a "T" intersection. The future extension of Mills Ave to Harney Ln. and Century Blvd to Lower Sacramento Rd will relieve some of the traffic using this intersection.

4. Lockeford St & Stockton St

The need for a traffic signal at this intersection has been demonstrated as it has ranked number one since first studied in 1988. In 1997 a 4-way stop was installed as an interim measure until a traffic signal could be installed. This improvement reduced accidents, and lowered the intersection's ranking. The reasons we have not proceeded with the signal installation is primarily due to the additional work required to improve the roadway and the elevated railroad tracks adjacent to the intersection. We have submitted an application for federal funds to install the costly signal and roadway improvements. Current funds budgeted for a traffic signal is insufficient since this intersection needs major roadway improvements.

5. Lockeford St & Sacramento St

The ranking at this intersection is due to the high traffic volumes on Lockeford St providing fewer gaps for driver on Sacramento St. The traffic volumes on Sacramento St are relatively low and the number of accidents are fairly high. In 1990, improvements were implemented for a suspected visibility problem. Although there may be a need for a signal at this location, this intersection is close to the existing signal at Church St and will be relatively close to the proposed signal at Stockton St. Staff will continue to monitor and pursue action to further reduce accidents.

6. Cherokee Ln & K-Mart SC

The ranking at this location is due to the high traffic volumes on Cherokee Ln providing fewer gaps for drivers turning left from the shopping center driveway onto southbound Cherokee Ln and accidents. The number of accidents is likely associated with the increased volumes at this driveway. In 1997, a median was installed eliminating left turns into and out of the north driveway, directing these drivers to remaining southern driveway. This location is also considered a "T" intersection although it appears to be a four legged intersection. The roadway directly across the Cherokee Lane driveway has been abandoned. Our main concern at this location is it's close proximity to the signal at Lodi Ave. It will be necessary to install an interconnected system coordinating this signal with the Lodi Avenue intersection. An additional access on Lodi Avenue would also improve the circulation at the shopping center and will be evaluated with the Lodi Avenue Central City Railroad Improvement Project.

7. Stockton St & Tokay St

The ranking at this intersection is due to the traffic volumes on both streets and accidents. While neither street alone has a particularly high volume, the combined volume at this four-way stop intersection is high. There have been few accidents and the volume split between the two streets is favorable for a four- way stop.

8. Century Blvd & Ham Lane

The ranking at this intersection is due to the traffic volumes on both streets. Daily traffic volumes entering the intersection have increased by more that 3,500 vehicles (20%); however, traffic accidents have declined. The intersection is adjacent to a high school and park and can experience occasional high traffic periods and pedestrian activity. Although traffic volumes are relatively high, accidents are low implying that it appears to be working as a four-way stop at this time. However, of the four-way stop intersections studied, it has the most lanes approaching the intersection to monitor and it has been noted that during peak periods it can be difficult to determine when you can proceed. Because of this intersections proximity to the school site, we have applied for and are awaiting the results of our request for funding a traffic signal at this intersection.

9. Mills Ave & Elm St

The ranking at this intersection is due to the volumes on both streets. Daily traffic volume increased only slightly and accidents fell slightly. The four-way stop intersection is adjacent to an elementary school and can experience periods of high traffic and pedestrian volumes. The intersection also currently receives some traffic from a nearby high school and there is a Middle School to be constructed north of the intersection which will undoubtedly increase traffic in the area. Because of this intersection's proximity to the school site, we have applied for and are awaiting the results of our request for funding a traffic signal at this intersection.

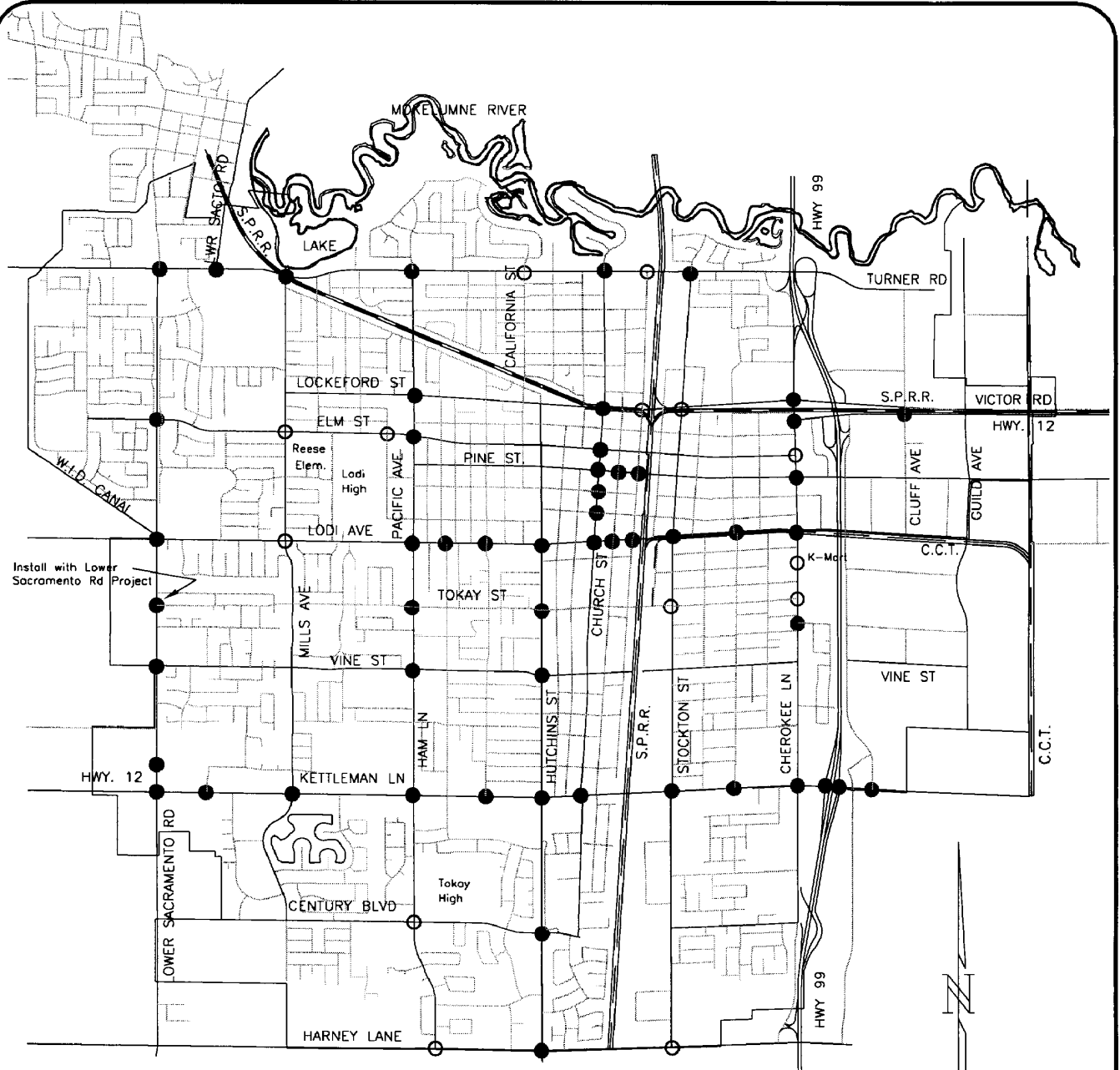
10. Turner Road and California Street/Edgewood Drive

The ranking at this intersection is due to traffic volumes on the major street. Daily traffic volumes have increased slightly on Turner Road. In the past four years, there has been one accident that is considered correctable with a traffic signal. There have been several left versus thru accidents on Turner Road and a left turn lane could eliminate this type of collision. Removal of parking adjacent to the intersection and fronting several residences would be necessary to install left turns lanes on Turner Road.



CITY OF LODI  
PUBLIC WORKS DEPARTMENT

2000 SIGNAL PRIORITY  
STUDY



LEGEND

- - Existing traffic signals
- - Signal priority intersections

NOT TO SCALE

# CITY OF LODI

## PUBLIC WORKS DEPARTMENT

### TRAFFIC SIGNAL PRIORITY STUDY (Abridged Edition)

July 2000

#### PREPARED BY:

Paula Fernandez, Associate Traffic Engineer  
Rick Kiri, Senior Engineering Technician  
Jaime Cordoba, Engineering Intern

#### UNDER THE DIRECTION OF:

Richard C. Prima, Jr., Public Works Director  
F. Wally Sandelin, City Engineer





TABLE OF CONTENTS  
(Abridged Edition)

I.	Scope of Study .....	1
II.	The Warrants.....	1
III.	The Priorities .....	1
IV.	The Intersections.....	3
Appendix	Signal Priority Worksheets	

I. SCOPE OF STUDY

In 1970, the Engineering Division began a program of studying high traffic volume and high accident non-signalized intersections within the City of Lodi. The primary purpose of these studies was to determine whether any of these intersections warranted the installation of traffic signals and, if so, in what order of priority should they be installed. Since 1970, the study has been updated several times, most recently in 1991.

II. THE WARRANTS

The warrants used for traffic control signals are those adopted by the State of California and published in the California Department of Transportation (Caltrans) "Traffic Manual."

The satisfaction of a warrant is not necessarily justification for signals. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown. The City may also find it advantageous to install signals at one intersection ahead of another because of a scheduled street project.

The types of warrants are:

- Warrant 1 – Minimum vehicular volume
- Warrant 2 – Interruption of continuous traffic
- Warrant 3 – Minimum pedestrian volume
- Warrant 4 – School crossings
- Warrant 5 – Progressive movement (not applicable)
- Warrant 6 – Accident experience
- Warrant 7 – Systems (not applicable in Lodi)
- Warrant 8 – Combination of warrants
- Warrant 9 – Four hour volume
- Warrant 10 – Peak hour delay
- Warrant 11 – Peak hour volume

Since the last study update, there have been some minor changes to Warrant 3. Pedestrian volumes needed were modified and requirements for vehicle gaps, signal spacing, and progressive movement were added. Warrant 3 is difficult to satisfy, and none of the locations met this warrant.

III. THE PRIORITIES

When the cost of installing traffic signals exceeds available construction funds, it is necessary to determine a systematic method of prioritizing signal installation. Intersections meeting one or more of the Caltrans Warrants are assigned priority ranking based on a point system.

In 1985, the City Council and the former Highway and Transportation Committee of the Chamber of Commerce expressed concerns over the relative weighting of various factors, such as, accidents and speeds in the 1970 priority system. The priority system was revised based upon a study that compared five systems used by northern California cities, including Lodi.

In summary, the intersections that meet the Caltrans signal warrants would rate highest on the priority system if they have the following characteristics:

- a. High traffic volume entering the intersection;
- b. Large number of accidents of a type that could be corrected by the installation of signals;
- c. High approach speeds;
- d. Be located a considerable distance from another signalized intersection.

**Exhibit A** is an example of the priority worksheet. A more detailed description of each priority characteristic is provided below.

Traffic Volumes – Points are assigned using a combination of total approach volume and percentage of minor street traffic. More points are given as the total approach volumes increase. Some additional points are given as the minor street percentage increases. Points for vehicular volumes are taken from a volume table shown on the priority worksheets.

As an example, an intersection with a total of 12,000 vehicles daily entering from all four approaches and 2,400 (20%) vehicles entering from the two minor approaches, would have a point rating of 92. The closer the traffic from the minor street approaches 50% of the total volume entering the intersection, the higher the point rating. The same intersection with 4,800 vehicles (40%) entering from the minor approaches would have a point rating of 132.

Accidents – Only accidents that can be corrected by installation of a signal are considered; such as right angle collisions and most pedestrian accidents. A four-year period is evaluated with 12 points per accident for the present year and 6 points per accident for the second to fourth years. Pedestrian accidents count as 1.5 points. Assigning more points for the most current year makes the system more responsive to recent changes.

Approach Speed – Points given for approach speeds range from 0 points for 25 mph to 150 points for 50 mph and more. More points are given as the approach speeds on the major street increase because of the higher potential of serious accidents. Four-way stop sign controlled intersections are given 0 points.

Coordinated Movement – Negative points are given to intersections within 1,200 feet of another signalized intersection. The minimum distance between signalized intersections is 600 feet. When signalized intersections are properly located and timed, traffic can effectively flow through the intersections.

Special Conditions – This factor is applied to two-way controlled intersections unless the accident history indicates existing four-way stop control is insufficient. Additional factors may be considered such as traffic at adjacent intersections, unusual geometry or project scheduling requirements.

#### IV. THE INTERSECTIONS

Since 1970, the Engineering Division has studied many intersections to determine whether they warranted the installation of traffic signals. As a result of these studies and other development and improvement projects, signals have been installed at the following thirty-four intersections:

1. Turner Road and Ham Lane
2. Ham Lane and Elm Street
3. Lodi Avenue and Stockton Street
4. Lodi Avenue and Crescent Avenue
5. Lockeford Street and Church Street
6. Kettleman Lane and Ham Lane
7. Kettleman Lane and Church Street
8. Hutchins Street and Century Boulevard
9. Kettleman Lane and Stockton Street
10. Ham Lane and Vine Street
11. Lodi Avenue and Fairmont Avenue
12. Hutchins Street and Harney Lane
13. Pine Street and Sacramento Street
14. Ham Lane and Tokay Street
15. Cherokee Lane and Lockeford Street
16. Ham Lane and Lockeford Street
17. Victor Road and Cluff Avenue
18. Turner Road and Church Street
19. Turner Road and Lower Sacramento Road (N)
20. Cherokee Lane and Hale Road
21. Hutchins Street and Vine Street
22. Kettleman Lane and Central Avenue
23. Kettleman Lane and Crescent Avenue
24. Kettleman Lane and Mills Avenue
25. Lower Sacramento Road and Elm Street
26. Lower Sacramento Road and Lodi Avenue
27. Lower Sacramento Road and Vine Street
28. Turner Road and Lower Sacramento Road / Woodhaven Lane
29. Turner Road and Mills Avenue
30. Turner Road and Stockton Street
31. Kettleman Lane and Beckman Road
32. Kettleman Lane and Highway 99 Ramps
33. Kettleman Lane and Tienda Drive
34. Lower Sacramento Road and Safeway Shopping Center

The intersections included in the current study that satisfied one or more of the Caltrans warrant(s) for the consideration of a traffic signal have been prioritized. A summary of the warrant results and priority ranking are presented on **Tables 1 & 2**. Existing a warranted traffic signal locations are graphically presented on **Exhibit B**. The intersections that warrant consideration of a traffic signal are listed below, in priority order. Of the fourteen signals ranked, the City has applied for funding for traffic signals at the seven intersections shown in bold.

<b>1. Harney Lane and Stockton Street</b>	<b>352</b>
<b>2. Lodi Avenue and Mills Avenue</b>	<b>330</b>
<b>3. Harney Lane and Ham Lane</b>	<b>308</b>
<b>4. Lockeford Street and Stockton Street</b>	<b>307</b>
5. Cherokee Lane and K-Mart south driveway	277
6. Lockeford Street and Sacramento Street	275
7. Stockton Street and Tokay Street	242
<b>8. Century Boulevard and Ham Lane</b>	<b>241</b>
<b>9. Mills Avenue and Elm Street</b>	<b>172</b>
10. Turner Road and California Street / Edgewood Drive	143
<b>11. Elm Street and Pacific Avenue</b>	<b>130</b>
12. Cherokee Lane and Tokay Street	109
13. Turner Road and Sacramento Street	98
14. Cherokee Lane and Elm Street	97

The point totals presented in Table 2 are close for some intersections; thereby, indicating that their ranking are basically equal. Differences of less than 20 points are not considered significant. The Signal Priority Worksheets are presented in the Appendix; however, the signal warrant sheets, collision diagrams, and volume sheets for all of the intersections studied are not included in this abridged edition.

Intersections studied that do not warrant the installation of traffic signals at this time are:

1. Century Boulevard and Scarborough Drive
2. Cherokee Lane and Vine Street
3. Hutchins Street and Pine Street
4. Lockeford Street and California Street
5. Pine Street and Stockton Street

# Appendix



# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Harney Ln  
Minor St: Stockton St

Volume: 12.5  
Volume: 3.1 % of Total 20  
Total Volume: 15.6 (Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																																					
Volume	<p><u>Minor Street</u></p> <table><thead><tr><th></th><th>%</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th><th>18</th><th>19</th><th>20</th></tr></thead><tbody><tr><td>5</td><td>4</td><td>5</td><td>6</td><td>8</td><td>10</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td><td></td></tr><tr><td>10</td><td>10</td><td>12</td><td>15</td><td>18</td><td>22</td><td>26</td><td>30</td><td>34</td><td>41</td><td>48</td><td>55</td><td>62</td><td>70</td><td></td></tr><tr><td>15</td><td>25</td><td>31</td><td>37</td><td>45</td><td>53</td><td>62</td><td>71</td><td>80</td><td>93</td><td>106</td><td>119</td><td>132</td><td>145</td><td></td></tr><tr><td>20</td><td>42</td><td>51</td><td>60</td><td>76</td><td>92</td><td>108</td><td>124</td><td>140</td><td>160</td><td>180</td><td>200</td><td>220</td><td>240</td><td></td></tr><tr><td>25</td><td>51</td><td>62</td><td>72</td><td>90</td><td>107</td><td>125</td><td>142</td><td>160</td><td>180</td><td>208</td><td>232</td><td>256</td><td>280</td><td></td></tr><tr><td>30</td><td>61</td><td>73</td><td>85</td><td>104</td><td>123</td><td>142</td><td>161</td><td>180</td><td>208</td><td>236</td><td>264</td><td>292</td><td>320</td><td></td></tr><tr><td>35</td><td>63</td><td>75</td><td>87</td><td>108</td><td>128</td><td>148</td><td>169</td><td>188</td><td>210</td><td>249</td><td>278</td><td>308</td><td>338</td><td></td></tr><tr><td>40</td><td>65</td><td>77</td><td>89</td><td>111</td><td>132</td><td>154</td><td>176</td><td>196</td><td>229</td><td>261</td><td>292</td><td>323</td><td>355</td><td></td></tr><tr><td>45</td><td>67</td><td>79</td><td>91</td><td>114</td><td>137</td><td>160</td><td>183</td><td>206</td><td>240</td><td>273</td><td>306</td><td>338</td><td>372</td><td></td></tr><tr><td>50</td><td>68</td><td>80</td><td>95</td><td>117</td><td>141</td><td>165</td><td>190</td><td>215</td><td>250</td><td>285</td><td>320</td><td>353</td><td>389</td><td></td></tr></tbody></table> <p>Do not interpolate - use next highest value</p>		%	8	9	10	11	12	13	14	15	16	17	18	19	20	5	4	5	6	8	10	12	15	18	21	24	27	30	33		10	10	12	15	18	22	26	30	34	41	48	55	62	70		15	25	31	37	45	53	62	71	80	93	106	119	132	145		20	42	51	60	76	92	108	124	140	160	180	200	220	240		25	51	62	72	90	107	125	142	160	180	208	232	256	280		30	61	73	85	104	123	142	161	180	208	236	264	292	320		35	63	75	87	108	128	148	169	188	210	249	278	308	338		40	65	77	89	111	132	154	176	196	229	261	292	323	355		45	67	79	91	114	137	160	183	206	240	273	306	338	372		50	68	80	95	117	141	165	190	215	250	285	320	353	389		160
	%	8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																																									
5	4	5	6	8	10	12	15	18	21	24	27	30	33																																																																																																																																																										
10	10	12	15	18	22	26	30	34	41	48	55	62	70																																																																																																																																																										
15	25	31	37	45	53	62	71	80	93	106	119	132	145																																																																																																																																																										
20	42	51	60	76	92	108	124	140	160	180	200	220	240																																																																																																																																																										
25	51	62	72	90	107	125	142	160	180	208	232	256	280																																																																																																																																																										
30	61	73	85	104	123	142	161	180	208	236	264	292	320																																																																																																																																																										
35	63	75	87	108	128	148	169	188	210	249	278	308	338																																																																																																																																																										
40	65	77	89	111	132	154	176	196	229	261	292	323	355																																																																																																																																																										
45	67	79	91	114	137	160	183	206	240	273	306	338	372																																																																																																																																																										
50	68	80	95	117	141	165	190	215	250	285	320	353	389																																																																																																																																																										
Accidents	<p>12 points per accident for recent year <math>\frac{1}{5} \times 12 = \frac{12}{30}</math></p> <p>6 points per accident for second to fourth year <math>\frac{1}{5} \times 6 = \frac{6}{30}</math></p> <p>(Pedestrian accidents count as 1.5)</p> <p>TOTAL</p>	42																																																																																																																																																																					
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table><thead><tr><th>Speed (mph)</th><th>26</th><th>28</th><th>30</th><th>32</th><th>34</th><th>36</th><th>38</th><th>40</th><th>42</th><th>44</th><th>46</th><th>48</th><th>50</th></tr></thead><tbody><tr><td>Points</td><td>4</td><td>12</td><td>20</td><td>28</td><td>36</td><td>46</td><td>58</td><td>70</td><td>82</td><td>96</td><td>112</td><td>130</td><td>150</td></tr></tbody></table>	Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50	Points	4	12	20	28	36	46	58	70	82	96	112	130	150	150																																																																																																																																									
Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																																										
Points	4	12	20	28	36	46	58	70	82	96	112	130	150																																																																																																																																																										
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet)</p> <table><thead><tr><th>Distance (ft)</th><th>1200</th><th>1000</th><th>900</th><th>800</th><th>700</th><th>600</th></tr></thead><tbody><tr><th>Points</th><td>0</td><td>-20</td><td>-35</td><td>-50</td><td>-65</td><td>-80</td></tr></tbody></table>	Distance (ft)	1200	1000	900	800	700	600	Points	0	-20	-35	-50	-65	-80	0																																																																																																																																																							
Distance (ft)	1200	1000	900	800	700	600																																																																																																																																																																	
Points	0	-20	-35	-50	-65	-80																																																																																																																																																																	
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table><thead><tr><th>CONDITION</th><th>POINTS</th></tr></thead><tbody><tr><td>Signal warranted under Caltrans pedestrian or school crossing warrant</td><td>100</td></tr><tr><td>Meets 50% of above requirements</td><td>75</td></tr><tr><td>Intersection adjacent to school, major pedestrian generator or RR tracks within intersection</td><td>50</td></tr><tr><td>On school or major generator route or RR tracks adjacent to intersection</td><td>25</td></tr><tr><td>Other _____</td><td></td></tr><tr><td>(Describe) _____</td><td></td></tr></tbody></table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		0																																																																																																																																																							
CONDITION	POINTS																																																																																																																																																																						
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																																						
Meets 50% of above requirements	75																																																																																																																																																																						
Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50																																																																																																																																																																						
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																																						
Other _____																																																																																																																																																																							
(Describe) _____																																																																																																																																																																							
By: <u>Rick Kiriu</u> <i>DJR</i> Date: <u>June 7, 2000</u>		TOTAL POINTS 352																																																																																																																																																																					



# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Lodi Ave  
Minor St: Mills Ave

Volume: 8.8  
Volume: 6.7 % of Total 43  
Total Volume: 15.5 (Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																																					
Volume	<p><u>Minor Street</u></p> <table><thead><tr><th></th><th>%</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th><th>18</th><th>19</th><th>20</th></tr></thead><tbody><tr><td>5</td><td>4</td><td>5</td><td>6</td><td>8</td><td>10</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td><td></td></tr><tr><td>10</td><td>10</td><td>12</td><td>15</td><td>18</td><td>22</td><td>26</td><td>30</td><td>34</td><td>41</td><td>48</td><td>55</td><td>62</td><td>70</td><td></td></tr><tr><td>15</td><td>25</td><td>31</td><td>37</td><td>45</td><td>53</td><td>62</td><td>71</td><td>80</td><td>93</td><td>106</td><td>119</td><td>132</td><td>145</td><td></td></tr><tr><td>20</td><td>42</td><td>51</td><td>60</td><td>76</td><td>92</td><td>108</td><td>124</td><td>140</td><td>160</td><td>180</td><td>200</td><td>220</td><td>240</td><td></td></tr><tr><td>25</td><td>51</td><td>62</td><td>72</td><td>90</td><td>107</td><td>125</td><td>142</td><td>160</td><td>180</td><td>208</td><td>232</td><td>256</td><td>280</td><td></td></tr><tr><td>30</td><td>61</td><td>73</td><td>85</td><td>104</td><td>123</td><td>142</td><td>161</td><td>180</td><td>208</td><td>236</td><td>264</td><td>292</td><td>320</td><td></td></tr><tr><td>35</td><td>63</td><td>75</td><td>87</td><td>108</td><td>128</td><td>148</td><td>169</td><td>188</td><td>210</td><td>249</td><td>278</td><td>308</td><td>338</td><td></td></tr><tr><td>40</td><td>65</td><td>77</td><td>89</td><td>111</td><td>132</td><td>154</td><td>176</td><td>196</td><td>229</td><td>261</td><td>292</td><td>323</td><td>355</td><td></td></tr><tr><td>45</td><td>67</td><td>79</td><td>91</td><td>114</td><td>137</td><td>160</td><td>183</td><td>206</td><td>240</td><td>273</td><td>306</td><td>338</td><td>372</td><td></td></tr><tr><td>50</td><td>68</td><td>80</td><td>95</td><td>117</td><td>141</td><td>165</td><td>190</td><td>215</td><td>250</td><td>285</td><td>320</td><td>353</td><td>389</td><td></td></tr></tbody></table> <p>Do not interpolate - use next highest value</p>		%	8	9	10	11	12	13	14	15	16	17	18	19	20	5	4	5	6	8	10	12	15	18	21	24	27	30	33		10	10	12	15	18	22	26	30	34	41	48	55	62	70		15	25	31	37	45	53	62	71	80	93	106	119	132	145		20	42	51	60	76	92	108	124	140	160	180	200	220	240		25	51	62	72	90	107	125	142	160	180	208	232	256	280		30	61	73	85	104	123	142	161	180	208	236	264	292	320		35	63	75	87	108	128	148	169	188	210	249	278	308	338		40	65	77	89	111	132	154	176	196	229	261	292	323	355		45	67	79	91	114	137	160	183	206	240	273	306	338	372		50	68	80	95	117	141	165	190	215	250	285	320	353	389		240
	%	8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																																									
5	4	5	6	8	10	12	15	18	21	24	27	30	33																																																																																																																																																										
10	10	12	15	18	22	26	30	34	41	48	55	62	70																																																																																																																																																										
15	25	31	37	45	53	62	71	80	93	106	119	132	145																																																																																																																																																										
20	42	51	60	76	92	108	124	140	160	180	200	220	240																																																																																																																																																										
25	51	62	72	90	107	125	142	160	180	208	232	256	280																																																																																																																																																										
30	61	73	85	104	123	142	161	180	208	236	264	292	320																																																																																																																																																										
35	63	75	87	108	128	148	169	188	210	249	278	308	338																																																																																																																																																										
40	65	77	89	111	132	154	176	196	229	261	292	323	355																																																																																																																																																										
45	67	79	91	114	137	160	183	206	240	273	306	338	372																																																																																																																																																										
50	68	80	95	117	141	165	190	215	250	285	320	353	389																																																																																																																																																										
Accidents	<p>12 points per accident for recent year <math>\frac{5}{5} \times 12 = \frac{60}{30}</math> 6 points per accident for second to fourth year <math>\frac{5}{5} \times 6 = \frac{30}{30}</math> (Pedestrian accidents count as 1.5)</p> <p style="text-align: right;">TOTAL</p>	90																																																																																																																																																																					
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table><thead><tr><th>Speed (mph)</th><th>26</th><th>28</th><th>30</th><th>32</th><th>34</th><th>36</th><th>38</th><th>40</th><th>42</th><th>44</th><th>46</th><th>48</th><th>50</th></tr></thead><tbody><tr><td>Points</td><td>4</td><td>12</td><td>20</td><td>28</td><td>36</td><td>46</td><td>58</td><td>70</td><td>82</td><td>96</td><td>112</td><td>130</td><td>150</td></tr></tbody></table>	Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50	Points	4	12	20	28	36	46	58	70	82	96	112	130	150	0																																																																																																																																									
Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																																										
Points	4	12	20	28	36	46	58	70	82	96	112	130	150																																																																																																																																																										
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet)</p> <table><thead><tr><th>Distance (ft)</th><th>1200</th><th>1000</th><th>900</th><th>800</th><th>700</th><th>600</th></tr></thead><tbody><tr><td>Points</td><td>0</td><td>-20</td><td>-35</td><td>-50</td><td>-65</td><td>-80</td></tr></tbody></table>	Distance (ft)	1200	1000	900	800	700	600	Points	0	-20	-35	-50	-65	-80	0																																																																																																																																																							
Distance (ft)	1200	1000	900	800	700	600																																																																																																																																																																	
Points	0	-20	-35	-50	-65	-80																																																																																																																																																																	
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table><thead><tr><th>CONDITION</th><th>POINTS</th></tr></thead><tbody><tr><td>Signal warranted under Caltrans pedestrian or school crossing warrant</td><td>100</td></tr><tr><td>Meets 50% of above requirements</td><td>75</td></tr><tr><td>Intersection adjacent to school, major pedestrian generator or RR tracks within intersection</td><td>50</td></tr><tr><td>On school or major generator route or RR tracks adjacent to intersection</td><td>25</td></tr><tr><td>Other _____</td><td></td></tr><tr><td>(Describe) _____</td><td></td></tr></tbody></table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		0																																																																																																																																																							
CONDITION	POINTS																																																																																																																																																																						
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																																						
Meets 50% of above requirements	75																																																																																																																																																																						
Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50																																																																																																																																																																						
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																																						
Other _____																																																																																																																																																																							
(Describe) _____																																																																																																																																																																							
By: <u>Rick Kiriu</u> <i>RK</i> Date: <u>June 7, 2000</u>		TOTAL POINTS 330																																																																																																																																																																					





# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Harney Ln

Volume: 8.5

Minor St: Ham Ln

Volume: 4.3

% of Total 34

Total Volume: 12.8

(Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																																					
Volume	<p><u>Minor Street</u></p> <table border="1"><thead><tr><th></th><th>%</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th><th>18</th><th>19</th><th>20</th></tr></thead><tbody><tr><td>5</td><td>4</td><td>5</td><td>6</td><td>8</td><td>10</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td><td></td></tr><tr><td>10</td><td>10</td><td>12</td><td>15</td><td>18</td><td>22</td><td>26</td><td>30</td><td>34</td><td>41</td><td>48</td><td>55</td><td>62</td><td>70</td><td></td></tr><tr><td>15</td><td>25</td><td>31</td><td>37</td><td>45</td><td>53</td><td>62</td><td>71</td><td>80</td><td>93</td><td>106</td><td>119</td><td>132</td><td>145</td><td></td></tr><tr><td>20</td><td>42</td><td>51</td><td>60</td><td>76</td><td>92</td><td>108</td><td>124</td><td>140</td><td>160</td><td>180</td><td>200</td><td>220</td><td>240</td><td></td></tr><tr><td>25</td><td>51</td><td>62</td><td>72</td><td>90</td><td>107</td><td>125</td><td>142</td><td>160</td><td>180</td><td>208</td><td>232</td><td>256</td><td>280</td><td></td></tr><tr><td>30</td><td>61</td><td>73</td><td>85</td><td>104</td><td>123</td><td>142</td><td>161</td><td>180</td><td>208</td><td>236</td><td>264</td><td>292</td><td>320</td><td></td></tr><tr><td>35</td><td>63</td><td>75</td><td>87</td><td>108</td><td>128</td><td>148</td><td>169</td><td>188</td><td>210</td><td>249</td><td>278</td><td>308</td><td>338</td><td></td></tr><tr><td>40</td><td>65</td><td>77</td><td>89</td><td>111</td><td>132</td><td>154</td><td>176</td><td>196</td><td>229</td><td>261</td><td>292</td><td>323</td><td>355</td><td></td></tr><tr><td>45</td><td>67</td><td>79</td><td>91</td><td>114</td><td>137</td><td>160</td><td>183</td><td>206</td><td>240</td><td>273</td><td>306</td><td>338</td><td>372</td><td></td></tr><tr><td>50</td><td>68</td><td>80</td><td>95</td><td>117</td><td>141</td><td>165</td><td>190</td><td>215</td><td>250</td><td>285</td><td>320</td><td>353</td><td>389</td><td></td></tr></tbody></table> <p>Do not interpolate - use next highest value</p>		%	8	9	10	11	12	13	14	15	16	17	18	19	20	5	4	5	6	8	10	12	15	18	21	24	27	30	33		10	10	12	15	18	22	26	30	34	41	48	55	62	70		15	25	31	37	45	53	62	71	80	93	106	119	132	145		20	42	51	60	76	92	108	124	140	160	180	200	220	240		25	51	62	72	90	107	125	142	160	180	208	232	256	280		30	61	73	85	104	123	142	161	180	208	236	264	292	320		35	63	75	87	108	128	148	169	188	210	249	278	308	338		40	65	77	89	111	132	154	176	196	229	261	292	323	355		45	67	79	91	114	137	160	183	206	240	273	306	338	372		50	68	80	95	117	141	165	190	215	250	285	320	353	389		148
	%	8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																																									
5	4	5	6	8	10	12	15	18	21	24	27	30	33																																																																																																																																																										
10	10	12	15	18	22	26	30	34	41	48	55	62	70																																																																																																																																																										
15	25	31	37	45	53	62	71	80	93	106	119	132	145																																																																																																																																																										
20	42	51	60	76	92	108	124	140	160	180	200	220	240																																																																																																																																																										
25	51	62	72	90	107	125	142	160	180	208	232	256	280																																																																																																																																																										
30	61	73	85	104	123	142	161	180	208	236	264	292	320																																																																																																																																																										
35	63	75	87	108	128	148	169	188	210	249	278	308	338																																																																																																																																																										
40	65	77	89	111	132	154	176	196	229	261	292	323	355																																																																																																																																																										
45	67	79	91	114	137	160	183	206	240	273	306	338	372																																																																																																																																																										
50	68	80	95	117	141	165	190	215	250	285	320	353	389																																																																																																																																																										
Accidents	<p>12 points per accident for recent year <math>\frac{2}{4} \times 12 = \frac{24}{24}</math></p> <p>6 points per accident for second to fourth year <math>\frac{4}{4} \times 6 = \frac{24}{24}</math></p> <p>(Pedestrian accidents count as 1.5)</p> <p style="text-align: right;">TOTAL</p>	48																																																																																																																																																																					
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table border="1"><thead><tr><th>Speed (mph)</th><th>26</th><th>28</th><th>30</th><th>32</th><th>34</th><th>36</th><th>38</th><th>40</th><th>42</th><th>44</th><th>46</th><th>48</th><th>50</th></tr></thead><tbody><tr><td>Points</td><td>4</td><td>12</td><td>20</td><td>28</td><td>36</td><td>46</td><td>58</td><td>70</td><td>82</td><td>96</td><td>112</td><td>130</td><td>150</td></tr></tbody></table>	Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50	Points	4	12	20	28	36	46	58	70	82	96	112	130	150	112																																																																																																																																									
Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																																										
Points	4	12	20	28	36	46	58	70	82	96	112	130	150																																																																																																																																																										
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet)</p> <table border="1"><thead><tr><th>Distance (ft)</th><th>1200</th><th>1000</th><th>900</th><th>800</th><th>700</th><th>600</th></tr></thead><tbody><tr><th>Points</th><td>0</td><td>-20</td><td>-35</td><td>-50</td><td>-65</td><td>-80</td></tr></tbody></table>	Distance (ft)	1200	1000	900	800	700	600	Points	0	-20	-35	-50	-65	-80	0																																																																																																																																																							
Distance (ft)	1200	1000	900	800	700	600																																																																																																																																																																	
Points	0	-20	-35	-50	-65	-80																																																																																																																																																																	
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table border="1"><thead><tr><th>CONDITION</th><th>POINTS</th></tr></thead><tbody><tr><td>Signal warranted under Caltrans pedestrian or school crossing warrant</td><td>100</td></tr><tr><td>Meets 50% of above requirements</td><td>75</td></tr><tr><td>Intersection adjacent to school, major pedestrian generator or RR tracks within intersection</td><td>50</td></tr><tr><td>On school or major generator route or RR tracks adjacent to intersection</td><td>25</td></tr><tr><td>Other _____</td><td></td></tr><tr><td>(Describe) _____</td><td></td></tr></tbody></table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		0																																																																																																																																																							
CONDITION	POINTS																																																																																																																																																																						
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																																						
Meets 50% of above requirements	75																																																																																																																																																																						
Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50																																																																																																																																																																						
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																																						
Other _____																																																																																																																																																																							
(Describe) _____																																																																																																																																																																							
By: <u>Rick Kiriu</u> <i>PKR</i> Date: <u>June 7, 2000</u> TOTAL POINTS		308																																																																																																																																																																					



# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Lockeford St  
 Minor St: Stockton St

Volume: 10.2  
 Volume: 3.9 % of Total 28  
 Total Volume: 14.1 (Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																																											
Volume	<p><u>Minor Street</u></p> <table border="1"> <thead> <tr> <th></th> <th colspan="16"><u>Total Entering Intersection</u></th> </tr> <tr> <th>%</th> <th>8</th> <th>9</th> <th>10</th> <th>11</th> <th>12</th> <th>13</th> <th>14</th> <th>15</th> <th>16</th> <th>17</th> <th>18</th> <th>19</th> <th>20</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>4</td> <td>5</td> <td>6</td> <td>8</td> <td>10</td> <td>12</td> <td>15</td> <td>18</td> <td>21</td> <td>24</td> <td>27</td> <td>30</td> <td>33</td> </tr> <tr> <td>10</td> <td>10</td> <td>12</td> <td>15</td> <td>18</td> <td>22</td> <td>26</td> <td>30</td> <td>34</td> <td>41</td> <td>48</td> <td>55</td> <td>62</td> <td>70</td> </tr> <tr> <td>15</td> <td>25</td> <td>31</td> <td>37</td> <td>45</td> <td>53</td> <td>62</td> <td>71</td> <td>80</td> <td>93</td> <td>106</td> <td>119</td> <td>132</td> <td>145</td> </tr> <tr> <td>20</td> <td>42</td> <td>51</td> <td>60</td> <td>76</td> <td>92</td> <td>108</td> <td>124</td> <td>140</td> <td>160</td> <td>180</td> <td>200</td> <td>220</td> <td>240</td> </tr> <tr> <td>25</td> <td>51</td> <td>62</td> <td>72</td> <td>90</td> <td>107</td> <td>125</td> <td>142</td> <td>160</td> <td>180</td> <td>208</td> <td>232</td> <td>256</td> <td>280</td> </tr> <tr> <td>30</td> <td>61</td> <td>73</td> <td>85</td> <td>104</td> <td>123</td> <td>142</td> <td>161</td> <td>180</td> <td>208</td> <td>236</td> <td>264</td> <td>292</td> <td>320</td> </tr> <tr> <td>35</td> <td>63</td> <td>75</td> <td>87</td> <td>108</td> <td>128</td> <td>148</td> <td>169</td> <td>188</td> <td>210</td> <td>249</td> <td>278</td> <td>308</td> <td>338</td> </tr> <tr> <td>40</td> <td>65</td> <td>77</td> <td>89</td> <td>111</td> <td>132</td> <td>154</td> <td>176</td> <td>196</td> <td>229</td> <td>261</td> <td>292</td> <td>323</td> <td>355</td> </tr> <tr> <td>45</td> <td>67</td> <td>79</td> <td>91</td> <td>114</td> <td>137</td> <td>160</td> <td>183</td> <td>206</td> <td>240</td> <td>273</td> <td>306</td> <td>338</td> <td>372</td> </tr> <tr> <td>50</td> <td>68</td> <td>80</td> <td>95</td> <td>117</td> <td>141</td> <td>165</td> <td>190</td> <td>215</td> <td>250</td> <td>285</td> <td>320</td> <td>353</td> <td>389</td> </tr> </tbody> </table> <p>Do not interpolate - use next highest value</p>		<u>Total Entering Intersection</u>																%	8	9	10	11	12	13	14	15	16	17	18	19	20	5	4	5	6	8	10	12	15	18	21	24	27	30	33	10	10	12	15	18	22	26	30	34	41	48	55	62	70	15	25	31	37	45	53	62	71	80	93	106	119	132	145	20	42	51	60	76	92	108	124	140	160	180	200	220	240	25	51	62	72	90	107	125	142	160	180	208	232	256	280	30	61	73	85	104	123	142	161	180	208	236	264	292	320	35	63	75	87	108	128	148	169	188	210	249	278	308	338	40	65	77	89	111	132	154	176	196	229	261	292	323	355	45	67	79	91	114	137	160	183	206	240	273	306	338	372	50	68	80	95	117	141	165	190	215	250	285	320	353	389	180
	<u>Total Entering Intersection</u>																																																																																																																																																																												
%	8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																																																
5	4	5	6	8	10	12	15	18	21	24	27	30	33																																																																																																																																																																
10	10	12	15	18	22	26	30	34	41	48	55	62	70																																																																																																																																																																
15	25	31	37	45	53	62	71	80	93	106	119	132	145																																																																																																																																																																
20	42	51	60	76	92	108	124	140	160	180	200	220	240																																																																																																																																																																
25	51	62	72	90	107	125	142	160	180	208	232	256	280																																																																																																																																																																
30	61	73	85	104	123	142	161	180	208	236	264	292	320																																																																																																																																																																
35	63	75	87	108	128	148	169	188	210	249	278	308	338																																																																																																																																																																
40	65	77	89	111	132	154	176	196	229	261	292	323	355																																																																																																																																																																
45	67	79	91	114	137	160	183	206	240	273	306	338	372																																																																																																																																																																
50	68	80	95	117	141	165	190	215	250	285	320	353	389																																																																																																																																																																
Accidents	<p>12 points per accident for recent year <math>\frac{1}{15} \times 12 = \frac{12}{90}</math></p> <p>6 points per accident for second to fourth year <math>\frac{1}{15} \times 6 = \frac{6}{90}</math></p> <p>(Pedestrian accidents count as 1.5)</p> <p style="text-align: right;">TOTAL</p>	102																																																																																																																																																																											
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table border="1"> <thead> <tr> <th>Speed (mph)</th> <th>26</th> <th>28</th> <th>30</th> <th>32</th> <th>34</th> <th>36</th> <th>38</th> <th>40</th> <th>42</th> <th>44</th> <th>46</th> <th>48</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>Points</td> <td>4</td> <td>12</td> <td>20</td> <td>28</td> <td>36</td> <td>46</td> <td>58</td> <td>70</td> <td>82</td> <td>96</td> <td>112</td> <td>130</td> <td>150</td> </tr> </tbody> </table>	Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50	Points	4	12	20	28	36	46	58	70	82	96	112	130	150	0																																																																																																																																															
Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																																																
Points	4	12	20	28	36	46	58	70	82	96	112	130	150																																																																																																																																																																
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal.          (Minimum distance is 600 feet)</p> <table border="1"> <thead> <tr> <th>Distance (ft)</th> <th>1200</th> <th>1000</th> <th>900</th> <th>800</th> <th>700</th> <th>600</th> </tr> </thead> <tbody> <tr> <td>Points</td> <td>0</td> <td>-20</td> <td>-35</td> <td>-50</td> <td>-65</td> <td>-80</td> </tr> </tbody> </table>	Distance (ft)	1200	1000	900	800	700	600	Points	0	-20	-35	-50	-65	-80	0																																																																																																																																																													
Distance (ft)	1200	1000	900	800	700	600																																																																																																																																																																							
Points	0	-20	-35	-50	-65	-80																																																																																																																																																																							
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table border="1"> <thead> <tr> <th>CONDITION</th> <th>POINTS</th> </tr> </thead> <tbody> <tr> <td>Signal warranted under Caltrans pedestrian or school crossing warrant</td> <td>100</td> </tr> <tr> <td>Meets 50% of above requirements</td> <td>75</td> </tr> <tr> <td>Intersection adjacent to school, major pedestrian generator or RR tracks within intersection</td> <td>50</td> </tr> <tr> <td>On school or major generator route or <u>RR tracks adjacent to intersection</u></td> <td>25</td> </tr> <tr> <td>Other _____</td> <td></td> </tr> <tr> <td>(Describe) _____</td> <td></td> </tr> </tbody> </table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50	On school or major generator route or <u>RR tracks adjacent to intersection</u>	25	Other _____		(Describe) _____		25																																																																																																																																																													
CONDITION	POINTS																																																																																																																																																																												
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																																												
Meets 50% of above requirements	75																																																																																																																																																																												
Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50																																																																																																																																																																												
On school or major generator route or <u>RR tracks adjacent to intersection</u>	25																																																																																																																																																																												
Other _____																																																																																																																																																																													
(Describe) _____																																																																																																																																																																													
By: <u>Rick Kiriu</u> <i>RK</i> Date: <u>June 7, 2000</u>		TOTAL POINTS																																																																																																																																																																											
		307																																																																																																																																																																											



# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Cherokee Ln

Volume: 17.1

Minor St: K-Mart South Driveway

Volume: 3.0

% of Total 15

Total Volume: 20.1

(Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																																																
Volume	<p><u>Minor Street</u></p> <p><u>Total Entering Intersection</u></p> <table border="1"> <thead> <tr> <th>%</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th><th>18</th><th>19</th><th>20</th><th>21</th><th>22</th></tr> </thead> <tbody> <tr> <td>5</td><td>4</td><td>5</td><td>6</td><td>8</td><td>10</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td><td>38</td><td>43</td></tr> <tr> <td>10</td><td>10</td><td>12</td><td>15</td><td>18</td><td>22</td><td>26</td><td>30</td><td>34</td><td>41</td><td>48</td><td>55</td><td>62</td><td>70</td><td><u>77</u></td><td>84</td></tr> <tr> <td>15</td><td>25</td><td>31</td><td>37</td><td>45</td><td>53</td><td>62</td><td>71</td><td>80</td><td>93</td><td>106</td><td>119</td><td>132</td><td>145</td><td><u>162</u></td><td>179</td></tr> <tr> <td>20</td><td>42</td><td>51</td><td>60</td><td>76</td><td>92</td><td>108</td><td>124</td><td>140</td><td>160</td><td>180</td><td>200</td><td>220</td><td>240</td><td><u>269</u></td><td>298</td></tr> <tr> <td>25</td><td>51</td><td>62</td><td>72</td><td>90</td><td>107</td><td>125</td><td>142</td><td>160</td><td>180</td><td>208</td><td>232</td><td>256</td><td>280</td><td>314</td><td>348</td></tr> <tr> <td>30</td><td>61</td><td>73</td><td>85</td><td>104</td><td>123</td><td>142</td><td>161</td><td>180</td><td>208</td><td>236</td><td>264</td><td>292</td><td>320</td><td>359</td><td>398</td></tr> <tr> <td>35</td><td>63</td><td>75</td><td>87</td><td>108</td><td>128</td><td>148</td><td>169</td><td>188</td><td>210</td><td>249</td><td>278</td><td>308</td><td>338</td><td>379</td><td>420</td></tr> <tr> <td>40</td><td>65</td><td>77</td><td>89</td><td>111</td><td>132</td><td>154</td><td>176</td><td>196</td><td>229</td><td>261</td><td>292</td><td>323</td><td>355</td><td>398</td><td>441</td></tr> <tr> <td>45</td><td>67</td><td>79</td><td>91</td><td>114</td><td>137</td><td>160</td><td>183</td><td>206</td><td>240</td><td>273</td><td>306</td><td>338</td><td>372</td><td>418</td><td>463</td></tr> <tr> <td>50</td><td>68</td><td>80</td><td>95</td><td>117</td><td>141</td><td>165</td><td>190</td><td>215</td><td>250</td><td>285</td><td>320</td><td>353</td><td>389</td><td>437</td><td>484</td></tr> </tbody> </table> <p>Do not interpolate - use next highest value</p>	%	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	5	4	5	6	8	10	12	15	18	21	24	27	30	33	38	43	10	10	12	15	18	22	26	30	34	41	48	55	62	70	<u>77</u>	84	15	25	31	37	45	53	62	71	80	93	106	119	132	145	<u>162</u>	179	20	42	51	60	76	92	108	124	140	160	180	200	220	240	<u>269</u>	298	25	51	62	72	90	107	125	142	160	180	208	232	256	280	314	348	30	61	73	85	104	123	142	161	180	208	236	264	292	320	359	398	35	63	75	87	108	128	148	169	188	210	249	278	308	338	379	420	40	65	77	89	111	132	154	176	196	229	261	292	323	355	398	441	45	67	79	91	114	137	160	183	206	240	273	306	338	372	418	463	50	68	80	95	117	141	165	190	215	250	285	320	353	389	437	484	162
%	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																																																																																																																																																																			
5	4	5	6	8	10	12	15	18	21	24	27	30	33	38	43																																																																																																																																																																			
10	10	12	15	18	22	26	30	34	41	48	55	62	70	<u>77</u>	84																																																																																																																																																																			
15	25	31	37	45	53	62	71	80	93	106	119	132	145	<u>162</u>	179																																																																																																																																																																			
20	42	51	60	76	92	108	124	140	160	180	200	220	240	<u>269</u>	298																																																																																																																																																																			
25	51	62	72	90	107	125	142	160	180	208	232	256	280	314	348																																																																																																																																																																			
30	61	73	85	104	123	142	161	180	208	236	264	292	320	359	398																																																																																																																																																																			
35	63	75	87	108	128	148	169	188	210	249	278	308	338	379	420																																																																																																																																																																			
40	65	77	89	111	132	154	176	196	229	261	292	323	355	398	441																																																																																																																																																																			
45	67	79	91	114	137	160	183	206	240	273	306	338	372	418	463																																																																																																																																																																			
50	68	80	95	117	141	165	190	215	250	285	320	353	389	437	484																																																																																																																																																																			
Accidents	<p>12 points per accident for recent year <math>\frac{4}{X} \quad 12 = \frac{48}{}</math></p> <p>6 points per accident for second to fourth year <math>\frac{4}{X} \quad 6 = \frac{24}{}</math></p> <p>(Pedestrian accidents count as 1.5)</p> <p style="text-align: right;">TOTAL</p>	72																																																																																																																																																																																
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table border="1"> <thead> <tr> <th>Speed (mph)</th><th>26</th><th>28</th><th>30</th><th>32</th><th>34</th><th>36</th><th><u>38</u></th><th>40</th><th>42</th><th>44</th><th>46</th><th>48</th><th>50</th></tr> </thead> <tbody> <tr> <th>Points</th><td>4</td><td>12</td><td>20</td><td>28</td><td>36</td><td>46</td><td><u>58</u></td><td>70</td><td>82</td><td>96</td><td>112</td><td>130</td><td>150</td></tr> </tbody> </table>	Speed (mph)	26	28	30	32	34	36	<u>38</u>	40	42	44	46	48	50	Points	4	12	20	28	36	46	<u>58</u>	70	82	96	112	130	150	58																																																																																																																																																				
Speed (mph)	26	28	30	32	34	36	<u>38</u>	40	42	44	46	48	50																																																																																																																																																																					
Points	4	12	20	28	36	46	<u>58</u>	70	82	96	112	130	150																																																																																																																																																																					
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet)</p> <table border="1"> <thead> <tr> <th>Distance (ft)</th><th>1200</th><th>1000</th><th>900</th><th>800</th><th><u>700</u></th><th>600</th></tr> </thead> <tbody> <tr> <th>Points</th><td>0</td><td>-20</td><td>-35</td><td>-50</td><td><u>-65</u></td><td>-80</td></tr> </tbody> </table>	Distance (ft)	1200	1000	900	800	<u>700</u>	600	Points	0	-20	-35	-50	<u>-65</u>	-80	-65																																																																																																																																																																		
Distance (ft)	1200	1000	900	800	<u>700</u>	600																																																																																																																																																																												
Points	0	-20	-35	-50	<u>-65</u>	-80																																																																																																																																																																												
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table border="1"> <thead> <tr> <th>CONDITION</th><th>POINTS</th></tr> </thead> <tbody> <tr> <td>Signal warranted under Caltrans pedestrian or school crossing warrant</td><td>100</td></tr> <tr> <td>Meets 50% of above requirements</td><td>75</td></tr> <tr> <td>Intersection adjacent to school, <u>major pedestrian generator</u> or RR tracks within intersection</td><td><u>50</u></td></tr> <tr> <td>On school or major generator route or RR tracks adjacent to intersection</td><td>25</td></tr> <tr> <td>Other _____</td><td></td></tr> <tr> <td>(Describe) _____</td><td></td></tr> <tr> <td>_____</td><td>25</td></tr> </tbody> </table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, <u>major pedestrian generator</u> or RR tracks within intersection	<u>50</u>	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		_____	25	50																																																																																																																																																																
CONDITION	POINTS																																																																																																																																																																																	
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																																																	
Meets 50% of above requirements	75																																																																																																																																																																																	
Intersection adjacent to school, <u>major pedestrian generator</u> or RR tracks within intersection	<u>50</u>																																																																																																																																																																																	
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																																																	
Other _____																																																																																																																																																																																		
(Describe) _____																																																																																																																																																																																		
_____	25																																																																																																																																																																																	
<p>By: <u>Rick Kiriu</u> <i>RK</i> Date: <u>June 7, 2000</u></p>		TOTAL POINTS <b>277</b>																																																																																																																																																																																




# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Lockeford St  
Minor St: Sacramento St

Volume: 11.2  
Volume: 2.4 % of Total 18  
Total Volume: 13.6 (Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																										
Volume	<p><u>Minor Street</u></p> <table><thead><tr><th>%</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th><th>18</th><th>19</th><th>20</th></tr></thead><tbody><tr><td>5</td><td>4</td><td>5</td><td>6</td><td>8</td><td>10</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td></tr><tr><td>10</td><td>10</td><td>12</td><td>15</td><td>18</td><td>22</td><td>26</td><td>30</td><td>34</td><td>41</td><td>48</td><td>55</td><td>62</td><td>70</td></tr><tr><td>15</td><td>25</td><td>31</td><td>37</td><td>45</td><td>53</td><td>62</td><td>71</td><td>80</td><td>93</td><td>106</td><td>119</td><td>132</td><td>145</td></tr><tr><td>20</td><td>42</td><td>51</td><td>60</td><td>76</td><td>92</td><td>108</td><td>124</td><td>140</td><td>160</td><td>180</td><td>200</td><td>220</td><td>240</td></tr><tr><td>25</td><td>51</td><td>62</td><td>72</td><td>90</td><td>107</td><td>125</td><td>142</td><td>160</td><td>180</td><td>208</td><td>232</td><td>256</td><td>280</td></tr><tr><td>30</td><td>61</td><td>73</td><td>85</td><td>104</td><td>123</td><td>142</td><td>161</td><td>180</td><td>208</td><td>236</td><td>264</td><td>292</td><td>320</td></tr><tr><td>35</td><td>63</td><td>75</td><td>87</td><td>108</td><td>128</td><td>148</td><td>169</td><td>188</td><td>210</td><td>249</td><td>278</td><td>308</td><td>338</td></tr><tr><td>40</td><td>65</td><td>77</td><td>89</td><td>111</td><td>132</td><td>154</td><td>176</td><td>196</td><td>229</td><td>261</td><td>292</td><td>323</td><td>355</td></tr><tr><td>45</td><td>67</td><td>79</td><td>91</td><td>114</td><td>137</td><td>160</td><td>183</td><td>206</td><td>240</td><td>273</td><td>306</td><td>338</td><td>372</td></tr><tr><td>50</td><td>68</td><td>80</td><td>95</td><td>117</td><td>141</td><td>165</td><td>190</td><td>215</td><td>250</td><td>285</td><td>320</td><td>353</td><td>389</td></tr></tbody></table> <p>Do not interpolate - use next highest value</p>	%	8	9	10	11	12	13	14	15	16	17	18	19	20	5	4	5	6	8	10	12	15	18	21	24	27	30	33	10	10	12	15	18	22	26	30	34	41	48	55	62	70	15	25	31	37	45	53	62	71	80	93	106	119	132	145	20	42	51	60	76	92	108	124	140	160	180	200	220	240	25	51	62	72	90	107	125	142	160	180	208	232	256	280	30	61	73	85	104	123	142	161	180	208	236	264	292	320	35	63	75	87	108	128	148	169	188	210	249	278	308	338	40	65	77	89	111	132	154	176	196	229	261	292	323	355	45	67	79	91	114	137	160	183	206	240	273	306	338	372	50	68	80	95	117	141	165	190	215	250	285	320	353	389	124
%	8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																															
5	4	5	6	8	10	12	15	18	21	24	27	30	33																																																																																																																																															
10	10	12	15	18	22	26	30	34	41	48	55	62	70																																																																																																																																															
15	25	31	37	45	53	62	71	80	93	106	119	132	145																																																																																																																																															
20	42	51	60	76	92	108	124	140	160	180	200	220	240																																																																																																																																															
25	51	62	72	90	107	125	142	160	180	208	232	256	280																																																																																																																																															
30	61	73	85	104	123	142	161	180	208	236	264	292	320																																																																																																																																															
35	63	75	87	108	128	148	169	188	210	249	278	308	338																																																																																																																																															
40	65	77	89	111	132	154	176	196	229	261	292	323	355																																																																																																																																															
45	67	79	91	114	137	160	183	206	240	273	306	338	372																																																																																																																																															
50	68	80	95	117	141	165	190	215	250	285	320	353	389																																																																																																																																															
Accidents	<p>12 points per accident for recent year <math>\frac{4}{12} \times 12 = 48</math> 6 points per accident for second to fourth year <math>\frac{12}{12} \times 6 = 72</math> (Pedestrian accidents count as 1.5)</p> <p>TOTAL</p>	120																																																																																																																																																										
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table><thead><tr><th>Speed (mph)</th><th>26</th><th>28</th><th>30</th><th>32</th><th>34</th><th>36</th><th>38</th><th>40</th><th>42</th><th>44</th><th>46</th><th>48</th><th>50</th></tr></thead><tbody><tr><td>Points</td><td>4</td><td>12</td><td>20</td><td>28</td><td>36</td><td>46</td><td>58</td><td>70</td><td>82</td><td>96</td><td>112</td><td>130</td><td>150</td></tr></tbody></table>	Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50	Points	4	12	20	28	36	46	58	70	82	96	112	130	150	46																																																																																																																														
Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																															
Points	4	12	20	28	36	46	58	70	82	96	112	130	150																																																																																																																																															
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet)</p> <table><thead><tr><th>Distance (ft)</th><th>1200</th><th>1000</th><th>900</th><th>800</th><th>700</th><th>600</th></tr></thead><tbody><tr><td>Points</td><td>0</td><td>-20</td><td>-35</td><td>-50</td><td>-65</td><td>-80</td></tr></tbody></table>	Distance (ft)	1200	1000	900	800	700	600	Points	0	-20	-35	-50	-65	-80	-65																																																																																																																																												
Distance (ft)	1200	1000	900	800	700	600																																																																																																																																																						
Points	0	-20	-35	-50	-65	-80																																																																																																																																																						
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table><thead><tr><th>CONDITION</th><th>POINTS</th></tr></thead><tbody><tr><td>Signal warranted under Caltrans pedestrian or school crossing warrant</td><td>100</td></tr><tr><td>Meets 50% of above requirements</td><td>75</td></tr><tr><td>Intersection adjacent to school, major pedestrian generator or <u>RR tracks within intersection</u></td><td>50</td></tr><tr><td>On school or major generator route or RR tracks adjacent to intersection</td><td>25</td></tr><tr><td>Other _____</td><td></td></tr><tr><td>(Describe) _____</td><td></td></tr></tbody></table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, major pedestrian generator or <u>RR tracks within intersection</u>	50	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		50																																																																																																																																												
CONDITION	POINTS																																																																																																																																																											
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																											
Meets 50% of above requirements	75																																																																																																																																																											
Intersection adjacent to school, major pedestrian generator or <u>RR tracks within intersection</u>	50																																																																																																																																																											
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																											
Other _____																																																																																																																																																												
(Describe) _____																																																																																																																																																												
By: <u>Rick Kiriu</u>  Date: <u>June 7, 2000</u>		TOTAL POINTS 275																																																																																																																																																										



# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Stockton St  
Minor St: Tokay St

Volume: 8.6  
Volume: 5.9      % of Total 41  
Total Volume: 14.5      (Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																										
Volume	<p><u>Minor Street</u></p> <table><thead><tr><th>%</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th><th>18</th><th>19</th><th>20</th></tr></thead><tbody><tr><td>5</td><td>4</td><td>5</td><td>6</td><td>8</td><td>10</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td></tr><tr><td>10</td><td>10</td><td>12</td><td>15</td><td>18</td><td>22</td><td>26</td><td>30</td><td>34</td><td>41</td><td>48</td><td>55</td><td>62</td><td>70</td></tr><tr><td>15</td><td>25</td><td>31</td><td>37</td><td>45</td><td>53</td><td>62</td><td>71</td><td>80</td><td>93</td><td>106</td><td>119</td><td>132</td><td>145</td></tr><tr><td>20</td><td>42</td><td>51</td><td>60</td><td>76</td><td>92</td><td>108</td><td>124</td><td>140</td><td>160</td><td>180</td><td>200</td><td>220</td><td>240</td></tr><tr><td>25</td><td>51</td><td>62</td><td>72</td><td>90</td><td>107</td><td>125</td><td>142</td><td>160</td><td>180</td><td>208</td><td>232</td><td>256</td><td>280</td></tr><tr><td>30</td><td>61</td><td>73</td><td>85</td><td>104</td><td>123</td><td>142</td><td>161</td><td>180</td><td>208</td><td>236</td><td>264</td><td>292</td><td>320</td></tr><tr><td>35</td><td>63</td><td>75</td><td>87</td><td>108</td><td>128</td><td>148</td><td>169</td><td>188</td><td>210</td><td>249</td><td>278</td><td>308</td><td>338</td></tr><tr><td>40</td><td>65</td><td>77</td><td>89</td><td>111</td><td>132</td><td>154</td><td>176</td><td>196</td><td>229</td><td>261</td><td>292</td><td>323</td><td>355</td></tr><tr><td>45</td><td>67</td><td>79</td><td>91</td><td>114</td><td>137</td><td>160</td><td>183</td><td>206</td><td>240</td><td>273</td><td>306</td><td>338</td><td>372</td></tr><tr><td>50</td><td>68</td><td>80</td><td>95</td><td>117</td><td>141</td><td>165</td><td>190</td><td>215</td><td>250</td><td>285</td><td>320</td><td>353</td><td>389</td></tr></tbody></table> <p>Do not interpolate - use next highest value</p>	%	8	9	10	11	12	13	14	15	16	17	18	19	20	5	4	5	6	8	10	12	15	18	21	24	27	30	33	10	10	12	15	18	22	26	30	34	41	48	55	62	70	15	25	31	37	45	53	62	71	80	93	106	119	132	145	20	42	51	60	76	92	108	124	140	160	180	200	220	240	25	51	62	72	90	107	125	142	160	180	208	232	256	280	30	61	73	85	104	123	142	161	180	208	236	264	292	320	35	63	75	87	108	128	148	169	188	210	249	278	308	338	40	65	77	89	111	132	154	176	196	229	261	292	323	355	45	67	79	91	114	137	160	183	206	240	273	306	338	372	50	68	80	95	117	141	165	190	215	250	285	320	353	389	206
%	8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																															
5	4	5	6	8	10	12	15	18	21	24	27	30	33																																																																																																																																															
10	10	12	15	18	22	26	30	34	41	48	55	62	70																																																																																																																																															
15	25	31	37	45	53	62	71	80	93	106	119	132	145																																																																																																																																															
20	42	51	60	76	92	108	124	140	160	180	200	220	240																																																																																																																																															
25	51	62	72	90	107	125	142	160	180	208	232	256	280																																																																																																																																															
30	61	73	85	104	123	142	161	180	208	236	264	292	320																																																																																																																																															
35	63	75	87	108	128	148	169	188	210	249	278	308	338																																																																																																																																															
40	65	77	89	111	132	154	176	196	229	261	292	323	355																																																																																																																																															
45	67	79	91	114	137	160	183	206	240	273	306	338	372																																																																																																																																															
50	68	80	95	117	141	165	190	215	250	285	320	353	389																																																																																																																																															
Accidents	<p>12 points per accident for recent year      <math>\frac{0}{6} \times 12 = 0</math> 6 points per accident for second to fourth year      <math>\frac{6}{6} \times 6 = 36</math> (Pedestrian accidents count as 1.5)</p> <p style="text-align: right;">TOTAL</p>	36																																																																																																																																																										
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table><thead><tr><th>Speed (mph)</th><th>26</th><th>28</th><th>30</th><th>32</th><th>34</th><th>36</th><th>38</th><th>40</th><th>42</th><th>44</th><th>46</th><th>48</th><th>50</th></tr></thead><tbody><tr><td>Points</td><td>4</td><td>12</td><td>20</td><td>28</td><td>36</td><td>46</td><td>58</td><td>70</td><td>82</td><td>96</td><td>112</td><td>130</td><td>150</td></tr></tbody></table>	Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50	Points	4	12	20	28	36	46	58	70	82	96	112	130	150	0																																																																																																																														
Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																															
Points	4	12	20	28	36	46	58	70	82	96	112	130	150																																																																																																																																															
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet)</p> <table><thead><tr><th>Distance (ft)</th><th>1200</th><th>1000</th><th>900</th><th>800</th><th>700</th><th>600</th></tr></thead><tbody><tr><td>Points</td><td>0</td><td>-20</td><td>-35</td><td>-50</td><td>-65</td><td>-80</td></tr></tbody></table>	Distance (ft)	1200	1000	900	800	700	600	Points	0	-20	-35	-50	-65	-80	0																																																																																																																																												
Distance (ft)	1200	1000	900	800	700	600																																																																																																																																																						
Points	0	-20	-35	-50	-65	-80																																																																																																																																																						
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table><thead><tr><th>CONDITION</th><th>POINTS</th></tr></thead><tbody><tr><td>Signal warranted under Caltrans pedestrian or school crossing warrant</td><td>100</td></tr><tr><td>Meets 50% of above requirements</td><td>75</td></tr><tr><td>Intersection adjacent to school, major pedestrian generator or RR tracks within intersection</td><td>50</td></tr><tr><td>On school or major generator route or RR tracks adjacent to intersection</td><td>25</td></tr><tr><td>Other _____</td><td></td></tr><tr><td>(Describe) _____</td><td></td></tr></tbody></table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		0																																																																																																																																												
CONDITION	POINTS																																																																																																																																																											
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																											
Meets 50% of above requirements	75																																																																																																																																																											
Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50																																																																																																																																																											
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																											
Other _____																																																																																																																																																												
(Describe) _____																																																																																																																																																												
By: <u>Rick Kiriu</u> <i>RK</i> Date: <u>June 7, 2000</u>		TOTAL POINTS      242																																																																																																																																																										



# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Ham Ln  
Minor St: Century Blvd

Volume: 9.6  
Volume: 6.2      % of Total 39  
Total Volume: 15.8      (Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																										
Volume	<p><u>Minor Street</u></p> <table><thead><tr><th>%</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th><th>18</th><th>19</th><th>20</th></tr></thead><tbody><tr><td>5</td><td>4</td><td>5</td><td>6</td><td>8</td><td>10</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td></tr><tr><td>10</td><td>10</td><td>12</td><td>15</td><td>18</td><td>22</td><td>26</td><td>30</td><td>34</td><td>41</td><td>48</td><td>55</td><td>62</td><td>70</td></tr><tr><td>15</td><td>25</td><td>31</td><td>37</td><td>45</td><td>53</td><td>62</td><td>71</td><td>80</td><td>93</td><td>106</td><td>119</td><td>132</td><td>145</td></tr><tr><td>20</td><td>42</td><td>51</td><td>60</td><td>76</td><td>92</td><td>108</td><td>124</td><td>140</td><td>160</td><td>180</td><td>200</td><td>220</td><td>240</td></tr><tr><td>25</td><td>51</td><td>62</td><td>72</td><td>90</td><td>107</td><td>125</td><td>142</td><td>160</td><td>180</td><td>208</td><td>232</td><td>256</td><td>280</td></tr><tr><td>30</td><td>61</td><td>73</td><td>85</td><td>104</td><td>123</td><td>142</td><td>161</td><td>180</td><td>208</td><td>236</td><td>264</td><td>292</td><td>320</td></tr><tr><td>35</td><td>63</td><td>75</td><td>87</td><td>108</td><td>128</td><td>148</td><td>169</td><td>188</td><td>210</td><td>249</td><td>278</td><td>308</td><td>338</td></tr><tr><td>40</td><td>65</td><td>77</td><td>89</td><td>111</td><td>132</td><td>154</td><td>176</td><td>196</td><td>229</td><td>261</td><td>292</td><td>323</td><td>355</td></tr><tr><td>45</td><td>67</td><td>79</td><td>91</td><td>114</td><td>137</td><td>160</td><td>183</td><td>206</td><td>240</td><td>273</td><td>306</td><td>338</td><td>372</td></tr><tr><td>50</td><td>68</td><td>80</td><td>95</td><td>117</td><td>141</td><td>165</td><td>190</td><td>215</td><td>250</td><td>285</td><td>320</td><td>353</td><td>389</td></tr></tbody></table> <p>Do not interpolate - use next highest value</p>	%	8	9	10	11	12	13	14	15	16	17	18	19	20	5	4	5	6	8	10	12	15	18	21	24	27	30	33	10	10	12	15	18	22	26	30	34	41	48	55	62	70	15	25	31	37	45	53	62	71	80	93	106	119	132	145	20	42	51	60	76	92	108	124	140	160	180	200	220	240	25	51	62	72	90	107	125	142	160	180	208	232	256	280	30	61	73	85	104	123	142	161	180	208	236	264	292	320	35	63	75	87	108	128	148	169	188	210	249	278	308	338	40	65	77	89	111	132	154	176	196	229	261	292	323	355	45	67	79	91	114	137	160	183	206	240	273	306	338	372	50	68	80	95	117	141	165	190	215	250	285	320	353	389	229
%	8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																															
5	4	5	6	8	10	12	15	18	21	24	27	30	33																																																																																																																																															
10	10	12	15	18	22	26	30	34	41	48	55	62	70																																																																																																																																															
15	25	31	37	45	53	62	71	80	93	106	119	132	145																																																																																																																																															
20	42	51	60	76	92	108	124	140	160	180	200	220	240																																																																																																																																															
25	51	62	72	90	107	125	142	160	180	208	232	256	280																																																																																																																																															
30	61	73	85	104	123	142	161	180	208	236	264	292	320																																																																																																																																															
35	63	75	87	108	128	148	169	188	210	249	278	308	338																																																																																																																																															
40	65	77	89	111	132	154	176	196	229	261	292	323	355																																																																																																																																															
45	67	79	91	114	137	160	183	206	240	273	306	338	372																																																																																																																																															
50	68	80	95	117	141	165	190	215	250	285	320	353	389																																																																																																																																															
Accidents	<p>12 points per accident for recent year      <u>1</u> X      12 = <u>12</u> 6 points per accident for second to fourth year      <u>0</u> X      6 = <u>0</u> (Pedestrian accidents count as 1.5)</p> <p style="text-align: right;">TOTAL</p>	12																																																																																																																																																										
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0) Speed (mph)    26    28    30    32    34    36    38    40    42    44    46    48    50 Points          4    12    20    28    36    46    58    70    82    96    112    130    150</p>	0																																																																																																																																																										
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet) Distance (ft)      1200    1000    900    800    700    600 Points              0    -20    -35    -50    -65    -80</p>	0																																																																																																																																																										
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table><thead><tr><th>CONDITION</th><th>POINTS</th></tr></thead><tbody><tr><td>Signal warranted under Caltrans pedestrian or school crossing warrant</td><td>100</td></tr><tr><td>Meets 50% of above requirements</td><td>75</td></tr><tr><td>Intersection adjacent to school, major pedestrian generator or RR tracks within intersection</td><td>50</td></tr><tr><td>On school or major generator route or RR tracks adjacent to intersection</td><td>25</td></tr><tr><td>Other _____</td><td></td></tr><tr><td>(Describe) _____</td><td></td></tr></tbody></table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		0																																																																																																																																												
CONDITION	POINTS																																																																																																																																																											
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																											
Meets 50% of above requirements	75																																																																																																																																																											
Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50																																																																																																																																																											
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																											
Other _____																																																																																																																																																												
(Describe) _____																																																																																																																																																												
By: <u>Rick Kiriu</u> <u>[Signature]</u> Date: <u>June 7, 2000</u>		TOTAL POINTS    241																																																																																																																																																										



# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Mills Ave  
Minor St: Elm St

Volume: 7.3  
Volume: 5.7 % of Total 44  
Total Volume: 13 (Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																																					
Volume	<p><u>Minor Street</u></p> <table><thead><tr><th></th><th>%</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th><th>18</th><th>19</th><th>20</th></tr></thead><tbody><tr><td>5</td><td>4</td><td>5</td><td>6</td><td>8</td><td>10</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td><td></td></tr><tr><td>10</td><td>10</td><td>12</td><td>15</td><td>18</td><td>22</td><td>26</td><td>30</td><td>34</td><td>41</td><td>48</td><td>55</td><td>62</td><td>70</td><td></td></tr><tr><td>15</td><td>25</td><td>31</td><td>37</td><td>45</td><td>53</td><td>62</td><td>71</td><td>80</td><td>93</td><td>106</td><td>119</td><td>132</td><td>145</td><td></td></tr><tr><td>20</td><td>42</td><td>51</td><td>60</td><td>76</td><td>92</td><td>108</td><td>124</td><td>140</td><td>160</td><td>180</td><td>200</td><td>220</td><td>240</td><td></td></tr><tr><td>25</td><td>51</td><td>62</td><td>72</td><td>90</td><td>107</td><td>125</td><td>142</td><td>160</td><td>180</td><td>208</td><td>232</td><td>256</td><td>280</td><td></td></tr><tr><td>30</td><td>61</td><td>73</td><td>85</td><td>104</td><td>123</td><td>142</td><td>161</td><td>180</td><td>208</td><td>236</td><td>264</td><td>292</td><td>320</td><td></td></tr><tr><td>35</td><td>63</td><td>75</td><td>87</td><td>108</td><td>128</td><td>148</td><td>169</td><td>188</td><td>210</td><td>249</td><td>278</td><td>308</td><td>338</td><td></td></tr><tr><td>40</td><td>65</td><td>77</td><td>89</td><td>111</td><td>132</td><td>154</td><td>176</td><td>196</td><td>229</td><td>261</td><td>292</td><td>323</td><td>355</td><td></td></tr><tr><td>45</td><td>67</td><td>79</td><td>91</td><td>114</td><td>137</td><td>160</td><td>183</td><td>206</td><td>240</td><td>273</td><td>306</td><td>338</td><td>372</td><td></td></tr><tr><td>50</td><td>68</td><td>80</td><td>95</td><td>117</td><td>141</td><td>165</td><td>190</td><td>215</td><td>250</td><td>285</td><td>320</td><td>353</td><td>389</td><td></td></tr></tbody></table> <p>Do not interpolate - use next highest value</p>		%	8	9	10	11	12	13	14	15	16	17	18	19	20	5	4	5	6	8	10	12	15	18	21	24	27	30	33		10	10	12	15	18	22	26	30	34	41	48	55	62	70		15	25	31	37	45	53	62	71	80	93	106	119	132	145		20	42	51	60	76	92	108	124	140	160	180	200	220	240		25	51	62	72	90	107	125	142	160	180	208	232	256	280		30	61	73	85	104	123	142	161	180	208	236	264	292	320		35	63	75	87	108	128	148	169	188	210	249	278	308	338		40	65	77	89	111	132	154	176	196	229	261	292	323	355		45	67	79	91	114	137	160	183	206	240	273	306	338	372		50	68	80	95	117	141	165	190	215	250	285	320	353	389		160
	%	8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																																									
5	4	5	6	8	10	12	15	18	21	24	27	30	33																																																																																																																																																										
10	10	12	15	18	22	26	30	34	41	48	55	62	70																																																																																																																																																										
15	25	31	37	45	53	62	71	80	93	106	119	132	145																																																																																																																																																										
20	42	51	60	76	92	108	124	140	160	180	200	220	240																																																																																																																																																										
25	51	62	72	90	107	125	142	160	180	208	232	256	280																																																																																																																																																										
30	61	73	85	104	123	142	161	180	208	236	264	292	320																																																																																																																																																										
35	63	75	87	108	128	148	169	188	210	249	278	308	338																																																																																																																																																										
40	65	77	89	111	132	154	176	196	229	261	292	323	355																																																																																																																																																										
45	67	79	91	114	137	160	183	206	240	273	306	338	372																																																																																																																																																										
50	68	80	95	117	141	165	190	215	250	285	320	353	389																																																																																																																																																										
Accidents	<p>12 points per accident for recent year <math>\frac{0}{2} \times 12 = \frac{0}{12}</math></p> <p>6 points per accident for second to fourth year <math>\frac{0}{2} \times 6 = \frac{0}{12}</math></p> <p>(Pedestrian accidents count as 1.5)</p> <p style="text-align: right;">TOTAL</p>	12																																																																																																																																																																					
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table><thead><tr><th>Speed (mph)</th><th>26</th><th>28</th><th>30</th><th>32</th><th>34</th><th>36</th><th>38</th><th>40</th><th>42</th><th>44</th><th>46</th><th>48</th><th>50</th></tr></thead><tbody><tr><td>Points</td><td>4</td><td>12</td><td>20</td><td>28</td><td>36</td><td>46</td><td>58</td><td>70</td><td>82</td><td>96</td><td>112</td><td>130</td><td>150</td></tr></tbody></table>	Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50	Points	4	12	20	28	36	46	58	70	82	96	112	130	150	0																																																																																																																																									
Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																																										
Points	4	12	20	28	36	46	58	70	82	96	112	130	150																																																																																																																																																										
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet)</p> <table><thead><tr><th>Distance (ft)</th><th>1200</th><th>1000</th><th>900</th><th>800</th><th>700</th><th>600</th></tr></thead><tbody><tr><th>Points</th><td>0</td><td>-20</td><td>-35</td><td>-50</td><td>-65</td><td>-80</td></tr></tbody></table>	Distance (ft)	1200	1000	900	800	700	600	Points	0	-20	-35	-50	-65	-80	0																																																																																																																																																							
Distance (ft)	1200	1000	900	800	700	600																																																																																																																																																																	
Points	0	-20	-35	-50	-65	-80																																																																																																																																																																	
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table><thead><tr><th>CONDITION</th><th>POINTS</th></tr></thead><tbody><tr><td>Signal warranted under Caltrans pedestrian or school crossing warrant</td><td>100</td></tr><tr><td>Meets 50% of above requirements</td><td>75</td></tr><tr><td>Intersection adjacent to school, major pedestrian generator or RR tracks within intersection</td><td>50</td></tr><tr><td>On school or major generator route or RR tracks adjacent to intersection</td><td>25</td></tr><tr><td>Other _____</td><td></td></tr><tr><td>(Describe) _____</td><td></td></tr></tbody></table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		0																																																																																																																																																							
CONDITION	POINTS																																																																																																																																																																						
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																																						
Meets 50% of above requirements	75																																																																																																																																																																						
Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50																																																																																																																																																																						
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																																						
Other _____																																																																																																																																																																							
(Describe) _____																																																																																																																																																																							
By: Rick Kiriu <i>RK</i> Date: <u>June 7, 2000</u>		TOTAL POINTS 172																																																																																																																																																																					



# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Turner Rd  
Minor St: California St / Edgewood Dr

Volume: 14.1  
Volume: 1.5 % of Total 10  
Total Volume: 15.6 (Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																										
Volume	<p><u>Minor Street</u></p> <p><u>Total Entering Intersection</u></p> <table><tr><td>%</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr><tr><td>5</td><td>4</td><td>5</td><td>6</td><td>8</td><td>10</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td></tr><tr><td>10</td><td>10</td><td>12</td><td>15</td><td>18</td><td>22</td><td>26</td><td>30</td><td>34</td><td>41</td><td>48</td><td>55</td><td>62</td><td>70</td></tr><tr><td>15</td><td>25</td><td>31</td><td>37</td><td>45</td><td>53</td><td>62</td><td>71</td><td>80</td><td>93</td><td>106</td><td>119</td><td>132</td><td>145</td></tr><tr><td>20</td><td>42</td><td>51</td><td>60</td><td>76</td><td>92</td><td>108</td><td>124</td><td>140</td><td>160</td><td>180</td><td>200</td><td>220</td><td>240</td></tr><tr><td>25</td><td>51</td><td>62</td><td>72</td><td>90</td><td>107</td><td>125</td><td>142</td><td>160</td><td>180</td><td>208</td><td>232</td><td>256</td><td>280</td></tr><tr><td>30</td><td>61</td><td>73</td><td>85</td><td>104</td><td>123</td><td>142</td><td>161</td><td>180</td><td>208</td><td>236</td><td>264</td><td>292</td><td>320</td></tr><tr><td>35</td><td>63</td><td>75</td><td>87</td><td>108</td><td>128</td><td>148</td><td>169</td><td>188</td><td>210</td><td>249</td><td>278</td><td>308</td><td>338</td></tr><tr><td>40</td><td>65</td><td>77</td><td>89</td><td>111</td><td>132</td><td>154</td><td>176</td><td>196</td><td>229</td><td>261</td><td>292</td><td>323</td><td>355</td></tr><tr><td>45</td><td>67</td><td>79</td><td>91</td><td>114</td><td>137</td><td>160</td><td>183</td><td>206</td><td>240</td><td>273</td><td>306</td><td>338</td><td>372</td></tr><tr><td>50</td><td>68</td><td>80</td><td>95</td><td>117</td><td>141</td><td>165</td><td>190</td><td>215</td><td>250</td><td>285</td><td>320</td><td>353</td><td>389</td></tr></table> <p>Do not interpolate - use next highest value</p>	%	8	9	10	11	12	13	14	15	16	17	18	19	20	5	4	5	6	8	10	12	15	18	21	24	27	30	33	10	10	12	15	18	22	26	30	34	41	48	55	62	70	15	25	31	37	45	53	62	71	80	93	106	119	132	145	20	42	51	60	76	92	108	124	140	160	180	200	220	240	25	51	62	72	90	107	125	142	160	180	208	232	256	280	30	61	73	85	104	123	142	161	180	208	236	264	292	320	35	63	75	87	108	128	148	169	188	210	249	278	308	338	40	65	77	89	111	132	154	176	196	229	261	292	323	355	45	67	79	91	114	137	160	183	206	240	273	306	338	372	50	68	80	95	117	141	165	190	215	250	285	320	353	389	41
%	8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																															
5	4	5	6	8	10	12	15	18	21	24	27	30	33																																																																																																																																															
10	10	12	15	18	22	26	30	34	41	48	55	62	70																																																																																																																																															
15	25	31	37	45	53	62	71	80	93	106	119	132	145																																																																																																																																															
20	42	51	60	76	92	108	124	140	160	180	200	220	240																																																																																																																																															
25	51	62	72	90	107	125	142	160	180	208	232	256	280																																																																																																																																															
30	61	73	85	104	123	142	161	180	208	236	264	292	320																																																																																																																																															
35	63	75	87	108	128	148	169	188	210	249	278	308	338																																																																																																																																															
40	65	77	89	111	132	154	176	196	229	261	292	323	355																																																																																																																																															
45	67	79	91	114	137	160	183	206	240	273	306	338	372																																																																																																																																															
50	68	80	95	117	141	165	190	215	250	285	320	353	389																																																																																																																																															
Accidents	<p>12 points per accident for recent year <math>\frac{0}{1} \times 12 = \frac{0}{6}</math></p> <p>6 points per accident for second to fourth year <math>\frac{1}{6} \times 6 = \frac{6}{6}</math></p> <p>(Pedestrian accidents count as 1.5)</p> <p>TOTAL</p>	6																																																																																																																																																										
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table><tr><td>Speed (mph)</td><td>26</td><td>28</td><td>30</td><td>32</td><td>34</td><td>36</td><td>38</td><td>40</td><td>42</td><td>44</td><td>46</td><td>48</td><td>50</td></tr><tr><td>Points</td><td>4</td><td>12</td><td>20</td><td>28</td><td>36</td><td>46</td><td>58</td><td>70</td><td>82</td><td>96</td><td>112</td><td>130</td><td>150</td></tr></table>	Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50	Points	4	12	20	28	36	46	58	70	82	96	112	130	150	96																																																																																																																														
Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																															
Points	4	12	20	28	36	46	58	70	82	96	112	130	150																																																																																																																																															
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet)</p> <table><tr><td>Distance (ft)</td><td>1200</td><td>1000</td><td>900</td><td>800</td><td>700</td><td>600</td></tr><tr><td>Points</td><td>0</td><td>-20</td><td>-35</td><td>-50</td><td>-65</td><td>-80</td></tr></table>	Distance (ft)	1200	1000	900	800	700	600	Points	0	-20	-35	-50	-65	-80	0																																																																																																																																												
Distance (ft)	1200	1000	900	800	700	600																																																																																																																																																						
Points	0	-20	-35	-50	-65	-80																																																																																																																																																						
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table><thead><tr><th>CONDITION</th><th>POINTS</th></tr></thead><tbody><tr><td>Signal warranted under Caltrans pedestrian or school crossing warrant</td><td>100</td></tr><tr><td>Meets 50% of above requirements</td><td>75</td></tr><tr><td>Intersection adjacent to school, major pedestrian generator or RR tracks within intersection</td><td>50</td></tr><tr><td>On school or major generator route or RR tracks adjacent to intersection</td><td>25</td></tr><tr><td>Other _____</td><td></td></tr><tr><td>(Describe) _____</td><td></td></tr></tbody></table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		0																																																																																																																																												
CONDITION	POINTS																																																																																																																																																											
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																											
Meets 50% of above requirements	75																																																																																																																																																											
Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50																																																																																																																																																											
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																											
Other _____																																																																																																																																																												
(Describe) _____																																																																																																																																																												
By: <u>Rick Kiriu</u> <i>RK</i> Date: <u>June 7, 2000</u>		TOTAL POINTS <b>143</b>																																																																																																																																																										





# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Elm St  
Minor St: Pacific Ave

Volume: 7.9  
Volume: 2.1 % of Total 21  
Total Volume: 10.0 (Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																																					
Volume	<p><u>Minor Street</u></p> <p><u>Total Entering Intersection</u></p> <table border="1"> <tr> <td>%</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr> <tr> <td>5</td><td>4</td><td>5</td><td>6</td><td>8</td><td>10</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td><td>38</td></tr> <tr> <td>10</td><td>10</td><td>12</td><td>15</td><td>18</td><td>22</td><td>26</td><td>30</td><td>34</td><td>41</td><td>48</td><td>55</td><td>62</td><td>70</td><td>77</td></tr> <tr> <td>15</td><td>25</td><td>31</td><td>37</td><td>45</td><td>53</td><td>62</td><td>71</td><td>80</td><td>93</td><td>106</td><td>119</td><td>132</td><td>145</td><td>162</td></tr> <tr> <td>20</td><td>42</td><td>51</td><td>60</td><td>76</td><td>92</td><td>108</td><td>124</td><td>140</td><td>160</td><td>180</td><td>200</td><td>220</td><td>240</td><td>269</td></tr> <tr> <td>25</td><td>51</td><td>62</td><td>72</td><td>90</td><td>107</td><td>125</td><td>142</td><td>160</td><td>180</td><td>208</td><td>232</td><td>256</td><td>280</td><td>314</td></tr> <tr> <td>30</td><td>61</td><td>73</td><td>85</td><td>104</td><td>123</td><td>142</td><td>161</td><td>180</td><td>208</td><td>236</td><td>264</td><td>292</td><td>320</td><td>359</td></tr> <tr> <td>35</td><td>63</td><td>75</td><td>87</td><td>108</td><td>128</td><td>148</td><td>169</td><td>188</td><td>210</td><td>249</td><td>278</td><td>308</td><td>338</td><td>379</td></tr> <tr> <td>40</td><td>65</td><td>77</td><td>89</td><td>111</td><td>132</td><td>154</td><td>176</td><td>196</td><td>229</td><td>261</td><td>292</td><td>323</td><td>355</td><td>398</td></tr> <tr> <td>45</td><td>67</td><td>79</td><td>91</td><td>114</td><td>137</td><td>160</td><td>183</td><td>206</td><td>240</td><td>273</td><td>306</td><td>338</td><td>372</td><td>418</td></tr> <tr> <td>50</td><td>68</td><td>80</td><td>95</td><td>117</td><td>141</td><td>165</td><td>190</td><td>215</td><td>250</td><td>285</td><td>320</td><td>353</td><td>389</td><td>437</td></tr> </table> <p>Do not interpolate - use next highest value</p>	%	8	9	10	11	12	13	14	15	16	17	18	19	20	21	5	4	5	6	8	10	12	15	18	21	24	27	30	33	38	10	10	12	15	18	22	26	30	34	41	48	55	62	70	77	15	25	31	37	45	53	62	71	80	93	106	119	132	145	162	20	42	51	60	76	92	108	124	140	160	180	200	220	240	269	25	51	62	72	90	107	125	142	160	180	208	232	256	280	314	30	61	73	85	104	123	142	161	180	208	236	264	292	320	359	35	63	75	87	108	128	148	169	188	210	249	278	308	338	379	40	65	77	89	111	132	154	176	196	229	261	292	323	355	398	45	67	79	91	114	137	160	183	206	240	273	306	338	372	418	50	68	80	95	117	141	165	190	215	250	285	320	353	389	437	72
%	8	9	10	11	12	13	14	15	16	17	18	19	20	21																																																																																																																																																									
5	4	5	6	8	10	12	15	18	21	24	27	30	33	38																																																																																																																																																									
10	10	12	15	18	22	26	30	34	41	48	55	62	70	77																																																																																																																																																									
15	25	31	37	45	53	62	71	80	93	106	119	132	145	162																																																																																																																																																									
20	42	51	60	76	92	108	124	140	160	180	200	220	240	269																																																																																																																																																									
25	51	62	72	90	107	125	142	160	180	208	232	256	280	314																																																																																																																																																									
30	61	73	85	104	123	142	161	180	208	236	264	292	320	359																																																																																																																																																									
35	63	75	87	108	128	148	169	188	210	249	278	308	338	379																																																																																																																																																									
40	65	77	89	111	132	154	176	196	229	261	292	323	355	398																																																																																																																																																									
45	67	79	91	114	137	160	183	206	240	273	306	338	372	418																																																																																																																																																									
50	68	80	95	117	141	165	190	215	250	285	320	353	389	437																																																																																																																																																									
Accidents	<p>12 points per accident for recent year <math>\frac{1}{3} \times 12 = \frac{12}{3}</math></p> <p>6 points per accident for second to fourth year <math>\frac{1}{3} \times 6 = \frac{6}{3}</math></p> <p>(Pedestrian accidents count as 1.5)</p> <p style="text-align: right;">TOTAL</p>	30																																																																																																																																																																					
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table border="1"> <tr> <td>Speed (mph)</td><td>26</td><td>28</td><td>30</td><td>32</td><td>34</td><td>36</td><td>38</td><td>40</td><td>42</td><td>44</td><td>46</td><td>48</td><td>50</td></tr> <tr> <td>Points</td><td>4</td><td>12</td><td>20</td><td>28</td><td>36</td><td>46</td><td>58</td><td>70</td><td>82</td><td>96</td><td>112</td><td>130</td><td>150</td></tr> </table>	Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50	Points	4	12	20	28	36	46	58	70	82	96	112	130	150	58																																																																																																																																									
Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																																										
Points	4	12	20	28	36	46	58	70	82	96	112	130	150																																																																																																																																																										
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet)</p> <table border="1"> <tr> <td>Distance (ft)</td><td>1200</td><td>1000</td><td>900</td><td>800</td><td>700</td><td>600</td></tr> <tr> <td>Points</td><td>0</td><td>-20</td><td>-35</td><td>-50</td><td>-65</td><td>-80</td></tr> </table>	Distance (ft)	1200	1000	900	800	700	600	Points	0	-20	-35	-50	-65	-80	-80																																																																																																																																																							
Distance (ft)	1200	1000	900	800	700	600																																																																																																																																																																	
Points	0	-20	-35	-50	-65	-80																																																																																																																																																																	
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table border="1"> <thead> <tr> <th>CONDITION</th><th>POINTS</th></tr> </thead> <tbody> <tr> <td>Signal warranted under Caltrans pedestrian or school crossing warrant</td><td>100</td></tr> <tr> <td>Meets 50% of above requirements</td><td>75</td></tr> <tr> <td>Intersection <u>adjacent to school</u>, major pedestrian generator or RR tracks within intersection</td><td>50</td></tr> <tr> <td>On school or major generator route or RR tracks adjacent to intersection</td><td>25</td></tr> <tr> <td>Other _____</td><td></td></tr> <tr> <td>(Describe) _____</td><td></td></tr> </tbody> </table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection <u>adjacent to school</u> , major pedestrian generator or RR tracks within intersection	50	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		50																																																																																																																																																							
CONDITION	POINTS																																																																																																																																																																						
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																																						
Meets 50% of above requirements	75																																																																																																																																																																						
Intersection <u>adjacent to school</u> , major pedestrian generator or RR tracks within intersection	50																																																																																																																																																																						
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																																						
Other _____																																																																																																																																																																							
(Describe) _____																																																																																																																																																																							
By: Rick Kiriu <i>RK</i> Date: June 7, 2000		TOTAL POINTS 130																																																																																																																																																																					



# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Cherokee Ln  
Minor St: Tokay St

Volume: 17.3  
Volume: 1.2 % of Total 7  
Total Volume: 18.5 (Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																																																					
Volume	<p><u>Minor Street</u></p> <table border="1"> <thead> <tr> <th colspan="2"></th> <th colspan="14"><u>Total Entering Intersection</u></th> </tr> <tr> <th>%</th> <th></th> <th>8</th> <th>9</th> <th>10</th> <th>11</th> <th>12</th> <th>13</th> <th>14</th> <th>15</th> <th>16</th> <th>17</th> <th>18</th> <th>19</th> <th>20</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>4</td> <td>5</td> <td>6</td> <td>8</td> <td>10</td> <td>12</td> <td>15</td> <td>18</td> <td>21</td> <td>24</td> <td>27</td> <td>30</td> <td>33</td> <td></td> </tr> <tr> <td>10</td> <td>10</td> <td>12</td> <td>15</td> <td>18</td> <td>22</td> <td>26</td> <td>30</td> <td>34</td> <td>41</td> <td>48</td> <td>55</td> <td>62</td> <td>70</td> <td></td> </tr> <tr> <td>15</td> <td>25</td> <td>31</td> <td>37</td> <td>45</td> <td>53</td> <td>62</td> <td>71</td> <td>80</td> <td>93</td> <td>106</td> <td>119</td> <td>132</td> <td>145</td> <td></td> </tr> <tr> <td>20</td> <td>42</td> <td>51</td> <td>60</td> <td>76</td> <td>92</td> <td>108</td> <td>124</td> <td>140</td> <td>160</td> <td>180</td> <td>200</td> <td>220</td> <td>240</td> <td></td> </tr> <tr> <td>25</td> <td>51</td> <td>62</td> <td>72</td> <td>90</td> <td>107</td> <td>125</td> <td>142</td> <td>160</td> <td>180</td> <td>208</td> <td>232</td> <td>256</td> <td>280</td> <td></td> </tr> <tr> <td>30</td> <td>61</td> <td>73</td> <td>85</td> <td>104</td> <td>123</td> <td>142</td> <td>161</td> <td>180</td> <td>208</td> <td>236</td> <td>264</td> <td>292</td> <td>320</td> <td></td> </tr> <tr> <td>35</td> <td>63</td> <td>75</td> <td>87</td> <td>108</td> <td>128</td> <td>148</td> <td>169</td> <td>188</td> <td>210</td> <td>249</td> <td>278</td> <td>308</td> <td>338</td> <td></td> </tr> <tr> <td>40</td> <td>65</td> <td>77</td> <td>89</td> <td>111</td> <td>132</td> <td>154</td> <td>176</td> <td>196</td> <td>229</td> <td>261</td> <td>292</td> <td>323</td> <td>355</td> <td></td> </tr> <tr> <td>45</td> <td>67</td> <td>79</td> <td>91</td> <td>114</td> <td>137</td> <td>160</td> <td>183</td> <td>206</td> <td>240</td> <td>273</td> <td>306</td> <td>338</td> <td>372</td> <td></td> </tr> <tr> <td>50</td> <td>68</td> <td>80</td> <td>95</td> <td>117</td> <td>141</td> <td>165</td> <td>190</td> <td>215</td> <td>250</td> <td>285</td> <td>320</td> <td>353</td> <td>389</td> <td></td> </tr> </tbody> </table> <p>Do not interpolate - use next highest value</p>			<u>Total Entering Intersection</u>														%		8	9	10	11	12	13	14	15	16	17	18	19	20	5	4	5	6	8	10	12	15	18	21	24	27	30	33		10	10	12	15	18	22	26	30	34	41	48	55	62	70		15	25	31	37	45	53	62	71	80	93	106	119	132	145		20	42	51	60	76	92	108	124	140	160	180	200	220	240		25	51	62	72	90	107	125	142	160	180	208	232	256	280		30	61	73	85	104	123	142	161	180	208	236	264	292	320		35	63	75	87	108	128	148	169	188	210	249	278	308	338		40	65	77	89	111	132	154	176	196	229	261	292	323	355		45	67	79	91	114	137	160	183	206	240	273	306	338	372		50	68	80	95	117	141	165	190	215	250	285	320	353	389		62
		<u>Total Entering Intersection</u>																																																																																																																																																																																					
%		8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																																																									
5	4	5	6	8	10	12	15	18	21	24	27	30	33																																																																																																																																																																										
10	10	12	15	18	22	26	30	34	41	48	55	62	70																																																																																																																																																																										
15	25	31	37	45	53	62	71	80	93	106	119	132	145																																																																																																																																																																										
20	42	51	60	76	92	108	124	140	160	180	200	220	240																																																																																																																																																																										
25	51	62	72	90	107	125	142	160	180	208	232	256	280																																																																																																																																																																										
30	61	73	85	104	123	142	161	180	208	236	264	292	320																																																																																																																																																																										
35	63	75	87	108	128	148	169	188	210	249	278	308	338																																																																																																																																																																										
40	65	77	89	111	132	154	176	196	229	261	292	323	355																																																																																																																																																																										
45	67	79	91	114	137	160	183	206	240	273	306	338	372																																																																																																																																																																										
50	68	80	95	117	141	165	190	215	250	285	320	353	389																																																																																																																																																																										
Accidents	<p>12 points per accident for recent year <math>\frac{1}{9.5} \times 12 = \frac{12}{57}</math></p> <p>6 points per accident for second to fourth year <math>\frac{1}{9.5} \times 6 = \frac{6}{57}</math></p> <p>(Pedestrian accidents count as 1.5)</p> <p style="text-align: right;">TOTAL</p>	69																																																																																																																																																																																					
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table border="1"> <thead> <tr> <th>Speed (mph)</th> <th>26</th> <th>28</th> <th>30</th> <th>32</th> <th>34</th> <th>36</th> <th>38</th> <th>40</th> <th>42</th> <th>44</th> <th>46</th> <th>48</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>Points</td> <td>4</td> <td>12</td> <td>20</td> <td>28</td> <td>36</td> <td>46</td> <td>58</td> <td>70</td> <td>82</td> <td>96</td> <td>112</td> <td>130</td> <td>150</td> </tr> </tbody> </table>	Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50	Points	4	12	20	28	36	46	58	70	82	96	112	130	150	58																																																																																																																																																									
Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																																																										
Points	4	12	20	28	36	46	58	70	82	96	112	130	150																																																																																																																																																																										
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet)</p> <table border="1"> <thead> <tr> <th>Distance (ft)</th> <th>1200</th> <th>1000</th> <th>900</th> <th>800</th> <th>700</th> <th>600</th> </tr> </thead> <tbody> <tr> <td>Points</td> <td>0</td> <td>-20</td> <td>-35</td> <td>-50</td> <td>-65</td> <td>-80</td> </tr> </tbody> </table>	Distance (ft)	1200	1000	900	800	700	600	Points	0	-20	-35	-50	-65	-80	-80																																																																																																																																																																							
Distance (ft)	1200	1000	900	800	700	600																																																																																																																																																																																	
Points	0	-20	-35	-50	-65	-80																																																																																																																																																																																	
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table border="1"> <thead> <tr> <th>CONDITION</th> <th>POINTS</th> </tr> </thead> <tbody> <tr> <td>Signal warranted under Caltrans pedestrian or school crossing warrant</td> <td>100</td> </tr> <tr> <td>Meets 50% of above requirements</td> <td>75</td> </tr> <tr> <td>Intersection adjacent to school, major pedestrian generator or RR tracks within intersection</td> <td>50</td> </tr> <tr> <td>On school or major generator route or RR tracks adjacent to intersection</td> <td>25</td> </tr> <tr> <td>Other _____</td> <td></td> </tr> <tr> <td>(Describe) _____</td> <td></td> </tr> </tbody> </table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		0																																																																																																																																																																							
CONDITION	POINTS																																																																																																																																																																																						
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																																																						
Meets 50% of above requirements	75																																																																																																																																																																																						
Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50																																																																																																																																																																																						
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																																																						
Other _____																																																																																																																																																																																							
(Describe) _____																																																																																																																																																																																							

By: Rick Kiriu *PKR*

Date: June 7, 2000

TOTAL POINTS **109**



# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Turner Rd  
Minor St: Sacramento St

Volume: 15.1  
Volume: 1.2 % of Total 7  
Total Volume: 16.3 (Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																										
Volume	<p><u>Minor Street</u></p> <table border="1"> <thead> <tr> <th>%</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th><th>18</th><th>19</th><th>20</th></tr> </thead> <tbody> <tr> <td>5</td><td>4</td><td>5</td><td>6</td><td>8</td><td>10</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td></tr> <tr> <td>10</td><td>10</td><td>12</td><td>15</td><td>18</td><td>22</td><td>26</td><td>30</td><td>34</td><td>41</td><td>48</td><td>55</td><td>62</td><td>70</td></tr> <tr> <td>15</td><td>25</td><td>31</td><td>37</td><td>45</td><td>53</td><td>62</td><td>71</td><td>80</td><td>93</td><td>106</td><td>119</td><td>132</td><td>145</td></tr> <tr> <td>20</td><td>42</td><td>51</td><td>60</td><td>76</td><td>92</td><td>108</td><td>124</td><td>140</td><td>160</td><td>180</td><td>200</td><td>220</td><td>240</td></tr> <tr> <td>25</td><td>51</td><td>62</td><td>72</td><td>90</td><td>107</td><td>125</td><td>142</td><td>160</td><td>180</td><td>208</td><td>232</td><td>256</td><td>280</td></tr> <tr> <td>30</td><td>61</td><td>73</td><td>85</td><td>104</td><td>123</td><td>142</td><td>161</td><td>180</td><td>208</td><td>236</td><td>264</td><td>292</td><td>320</td></tr> <tr> <td>35</td><td>63</td><td>75</td><td>87</td><td>108</td><td>128</td><td>148</td><td>169</td><td>188</td><td>210</td><td>249</td><td>278</td><td>308</td><td>338</td></tr> <tr> <td>40</td><td>65</td><td>77</td><td>89</td><td>111</td><td>132</td><td>154</td><td>176</td><td>196</td><td>229</td><td>261</td><td>292</td><td>323</td><td>355</td></tr> <tr> <td>45</td><td>67</td><td>79</td><td>91</td><td>114</td><td>137</td><td>160</td><td>183</td><td>206</td><td>240</td><td>273</td><td>306</td><td>338</td><td>372</td></tr> <tr> <td>50</td><td>68</td><td>80</td><td>95</td><td>117</td><td>141</td><td>165</td><td>190</td><td>215</td><td>250</td><td>285</td><td>320</td><td>353</td><td>389</td></tr> </tbody> </table> <p>Do not interpolate - use next highest value</p>	%	8	9	10	11	12	13	14	15	16	17	18	19	20	5	4	5	6	8	10	12	15	18	21	24	27	30	33	10	10	12	15	18	22	26	30	34	41	48	55	62	70	15	25	31	37	45	53	62	71	80	93	106	119	132	145	20	42	51	60	76	92	108	124	140	160	180	200	220	240	25	51	62	72	90	107	125	142	160	180	208	232	256	280	30	61	73	85	104	123	142	161	180	208	236	264	292	320	35	63	75	87	108	128	148	169	188	210	249	278	308	338	40	65	77	89	111	132	154	176	196	229	261	292	323	355	45	67	79	91	114	137	160	183	206	240	273	306	338	372	50	68	80	95	117	141	165	190	215	250	285	320	353	389	48
%	8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																															
5	4	5	6	8	10	12	15	18	21	24	27	30	33																																																																																																																																															
10	10	12	15	18	22	26	30	34	41	48	55	62	70																																																																																																																																															
15	25	31	37	45	53	62	71	80	93	106	119	132	145																																																																																																																																															
20	42	51	60	76	92	108	124	140	160	180	200	220	240																																																																																																																																															
25	51	62	72	90	107	125	142	160	180	208	232	256	280																																																																																																																																															
30	61	73	85	104	123	142	161	180	208	236	264	292	320																																																																																																																																															
35	63	75	87	108	128	148	169	188	210	249	278	308	338																																																																																																																																															
40	65	77	89	111	132	154	176	196	229	261	292	323	355																																																																																																																																															
45	67	79	91	114	137	160	183	206	240	273	306	338	372																																																																																																																																															
50	68	80	95	117	141	165	190	215	250	285	320	353	389																																																																																																																																															
Accidents	<p>12 points per accident for recent year <math>\frac{1}{1} \times 12 = \frac{12}{6}</math></p> <p>6 points per accident for second to fourth year <math>\frac{1}{1} \times 6 = \frac{6}{6}</math></p> <p>(Pedestrian accidents count as 1.5)</p> <p style="text-align: right;">TOTAL</p>	18																																																																																																																																																										
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table border="1"> <thead> <tr> <th>Speed (mph)</th><th>26</th><th>28</th><th>30</th><th>32</th><th>34</th><th>36</th><th>38</th><th>40</th><th>42</th><th>44</th><th>46</th><th>48</th><th>50</th></tr> </thead> <tbody> <tr> <td>Points</td><td>4</td><td>12</td><td>20</td><td>28</td><td>36</td><td>46</td><td>58</td><td>70</td><td>82</td><td>96</td><td>112</td><td>130</td><td>150</td></tr> </tbody> </table>	Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50	Points	4	12	20	28	36	46	58	70	82	96	112	130	150	82																																																																																																																														
Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																															
Points	4	12	20	28	36	46	58	70	82	96	112	130	150																																																																																																																																															
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet)</p> <table border="1"> <thead> <tr> <th>Distance (ft)</th><th>1200</th><th>1000</th><th>900</th><th>800</th><th>700</th><th>600</th></tr> </thead> <tbody> <tr> <td>Points</td><td>0</td><td>-20</td><td>-35</td><td>-50</td><td>-65</td><td>-80</td></tr> </tbody> </table>	Distance (ft)	1200	1000	900	800	700	600	Points	0	-20	-35	-50	-65	-80	-50																																																																																																																																												
Distance (ft)	1200	1000	900	800	700	600																																																																																																																																																						
Points	0	-20	-35	-50	-65	-80																																																																																																																																																						
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table border="1"> <thead> <tr> <th>CONDITION</th><th>POINTS</th></tr> </thead> <tbody> <tr> <td>Signal warranted under Caltrans pedestrian or school crossing warrant</td><td>100</td></tr> <tr> <td>Meets 50% of above requirements</td><td>75</td></tr> <tr> <td>Intersection adjacent to school, major pedestrian generator or RR tracks within intersection</td><td>50</td></tr> <tr> <td>On school or major generator route or RR tracks adjacent to intersection</td><td>25</td></tr> <tr> <td>Other _____</td><td></td></tr> <tr> <td>(Describe) _____</td><td></td></tr> </tbody> </table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		0																																																																																																																																												
CONDITION	POINTS																																																																																																																																																											
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																											
Meets 50% of above requirements	75																																																																																																																																																											
Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50																																																																																																																																																											
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																											
Other _____																																																																																																																																																												
(Describe) _____																																																																																																																																																												
<p>By: <u>Rick Kiriu</u> <i>RK</i> Date: <u>June 7, 2000</u></p>		TOTAL POINTS 98																																																																																																																																																										



# CITY OF LODI

Public Works Department

## TRAFFIC SIGNAL PRIORITY WORKSHEET

Major St: Cherokee Ln  
Minor St: Elm St

Volume: 19.6  
Volume: 1.2 % of Total 6  
Total Volume: 20.8 (Volumes in 1000's)

FACTOR	COMPUTATIONS	POINTS																																																																																																																																																																					
Volume	<p><u>Minor Street</u></p> <p><u>Total Entering Intersection</u></p> <table border="1"> <tr> <td>%</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr> <tr> <td>5</td><td>4</td><td>5</td><td>6</td><td>8</td><td>10</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td><td>38</td></tr> <tr> <td>10</td><td>10</td><td>12</td><td>15</td><td>18</td><td>22</td><td>26</td><td>30</td><td>34</td><td>41</td><td>48</td><td>55</td><td>62</td><td>70</td><td>77</td></tr> <tr> <td>15</td><td>25</td><td>31</td><td>37</td><td>45</td><td>53</td><td>62</td><td>71</td><td>80</td><td>93</td><td>106</td><td>119</td><td>132</td><td>145</td><td>162</td></tr> <tr> <td>20</td><td>42</td><td>51</td><td>60</td><td>76</td><td>92</td><td>108</td><td>124</td><td>140</td><td>160</td><td>180</td><td>200</td><td>220</td><td>240</td><td>269</td></tr> <tr> <td>25</td><td>51</td><td>62</td><td>72</td><td>90</td><td>107</td><td>125</td><td>142</td><td>160</td><td>180</td><td>208</td><td>232</td><td>256</td><td>280</td><td>314</td></tr> <tr> <td>30</td><td>61</td><td>73</td><td>85</td><td>104</td><td>123</td><td>142</td><td>161</td><td>180</td><td>208</td><td>236</td><td>264</td><td>292</td><td>320</td><td>359</td></tr> <tr> <td>35</td><td>63</td><td>75</td><td>87</td><td>108</td><td>128</td><td>148</td><td>169</td><td>188</td><td>210</td><td>249</td><td>278</td><td>308</td><td>338</td><td>379</td></tr> <tr> <td>40</td><td>65</td><td>77</td><td>89</td><td>111</td><td>132</td><td>154</td><td>176</td><td>196</td><td>229</td><td>261</td><td>292</td><td>323</td><td>355</td><td>398</td></tr> <tr> <td>45</td><td>67</td><td>79</td><td>91</td><td>114</td><td>137</td><td>160</td><td>183</td><td>206</td><td>240</td><td>273</td><td>306</td><td>338</td><td>372</td><td>418</td></tr> <tr> <td>50</td><td>68</td><td>80</td><td>95</td><td>117</td><td>141</td><td>165</td><td>190</td><td>215</td><td>250</td><td>285</td><td>320</td><td>353</td><td>389</td><td>437</td></tr> </table> <p>Do not interpolate - use next highest value</p>	%	8	9	10	11	12	13	14	15	16	17	18	19	20	21	5	4	5	6	8	10	12	15	18	21	24	27	30	33	38	10	10	12	15	18	22	26	30	34	41	48	55	62	70	77	15	25	31	37	45	53	62	71	80	93	106	119	132	145	162	20	42	51	60	76	92	108	124	140	160	180	200	220	240	269	25	51	62	72	90	107	125	142	160	180	208	232	256	280	314	30	61	73	85	104	123	142	161	180	208	236	264	292	320	359	35	63	75	87	108	128	148	169	188	210	249	278	308	338	379	40	65	77	89	111	132	154	176	196	229	261	292	323	355	398	45	67	79	91	114	137	160	183	206	240	273	306	338	372	418	50	68	80	95	117	141	165	190	215	250	285	320	353	389	437	77
%	8	9	10	11	12	13	14	15	16	17	18	19	20	21																																																																																																																																																									
5	4	5	6	8	10	12	15	18	21	24	27	30	33	38																																																																																																																																																									
10	10	12	15	18	22	26	30	34	41	48	55	62	70	77																																																																																																																																																									
15	25	31	37	45	53	62	71	80	93	106	119	132	145	162																																																																																																																																																									
20	42	51	60	76	92	108	124	140	160	180	200	220	240	269																																																																																																																																																									
25	51	62	72	90	107	125	142	160	180	208	232	256	280	314																																																																																																																																																									
30	61	73	85	104	123	142	161	180	208	236	264	292	320	359																																																																																																																																																									
35	63	75	87	108	128	148	169	188	210	249	278	308	338	379																																																																																																																																																									
40	65	77	89	111	132	154	176	196	229	261	292	323	355	398																																																																																																																																																									
45	67	79	91	114	137	160	183	206	240	273	306	338	372	418																																																																																																																																																									
50	68	80	95	117	141	165	190	215	250	285	320	353	389	437																																																																																																																																																									
Accidents	<p>12 points per accident for recent year <math>\frac{2}{3} \times 12 = \frac{24}{3}</math></p> <p>6 points per accident for second to fourth year <math>\frac{2}{3} \times 6 = \frac{18}{3}</math></p> <p>(Pedestrian accidents count as 1.5)</p> <p style="text-align: right;">TOTAL</p>	42																																																																																																																																																																					
Speed	<p>Use highest 85 percentile approach speed (4-way stop = 0)</p> <table border="1"> <tr> <td>Speed (mph)</td><td>26</td><td>28</td><td>30</td><td>32</td><td>34</td><td>36</td><td>38</td><td>40</td><td>42</td><td>44</td><td>46</td><td>48</td><td>50</td></tr> <tr> <td>Points</td><td>4</td><td>12</td><td>20</td><td>28</td><td>36</td><td>46</td><td>58</td><td>70</td><td>82</td><td>96</td><td>112</td><td>130</td><td>150</td></tr> </table>	Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50	Points	4	12	20	28	36	46	58	70	82	96	112	130	150	58																																																																																																																																									
Speed (mph)	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																																										
Points	4	12	20	28	36	46	58	70	82	96	112	130	150																																																																																																																																																										
Coordinated Movement	<p>Distance from proposed signal to nearest existing signal. (Minimum distance is 600 feet)</p> <table border="1"> <tr> <td>Distance (ft)</td><td>1200</td><td>1000</td><td>900</td><td>800</td><td>700</td><td>600</td></tr> <tr> <td>Points</td><td>0</td><td>-20</td><td>-35</td><td>-50</td><td>-65</td><td>-80</td></tr> </table>	Distance (ft)	1200	1000	900	800	700	600	Points	0	-20	-35	-50	-65	-80	-80																																																																																																																																																							
Distance (ft)	1200	1000	900	800	700	600																																																																																																																																																																	
Points	0	-20	-35	-50	-65	-80																																																																																																																																																																	
Special Conditions	<p>Apply to two-way stop controlled intersections unless accident history indicates existing four-way stop control is insufficient.</p> <table border="1"> <thead> <tr> <th>CONDITION</th><th>POINTS</th></tr> </thead> <tbody> <tr> <td>Signal warranted under Caltrans pedestrian or school crossing warrant</td><td>100</td></tr> <tr> <td>Meets 50% of above requirements</td><td>75</td></tr> <tr> <td>Intersection adjacent to school, major pedestrian generator or RR tracks within intersection</td><td>50</td></tr> <tr> <td>On school or major generator route or RR tracks adjacent to intersection</td><td>25</td></tr> <tr> <td>Other _____</td><td></td></tr> <tr> <td>(Describe) _____</td><td></td></tr> </tbody> </table>	CONDITION	POINTS	Signal warranted under Caltrans pedestrian or school crossing warrant	100	Meets 50% of above requirements	75	Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50	On school or major generator route or RR tracks adjacent to intersection	25	Other _____		(Describe) _____		0																																																																																																																																																							
CONDITION	POINTS																																																																																																																																																																						
Signal warranted under Caltrans pedestrian or school crossing warrant	100																																																																																																																																																																						
Meets 50% of above requirements	75																																																																																																																																																																						
Intersection adjacent to school, major pedestrian generator or RR tracks within intersection	50																																																																																																																																																																						
On school or major generator route or RR tracks adjacent to intersection	25																																																																																																																																																																						
Other _____																																																																																																																																																																							
(Describe) _____																																																																																																																																																																							
By: <u>Rick Kiriu</u> <i>RK</i> Date: <u>June 7, 2000</u>		TOTAL POINTS <b>97</b>																																																																																																																																																																					

*filed*

*7-19-00*

## **Main Identity**

---

**From:** Steve Mann <smann1@pacbell.net>  
**To:** Paul Wilbur <pwilbur@inreach.com>  
**Sent:** Sunday, July 16, 2000 10:56 PM  
**Subject:** Re: 2000 Signal Priority Study

Thanks, Diane. I'll see what can be done. No promises, but I'll try.—sjm

----- Original Message -----

**From:** Paul Wilbur  
**To:** mann@lodi.gov  
**Cc:** nakanishi@lodi.gov ; hitchcock@lodi.gov ; land@lodi.gov ; pennino@lodi.gov  
**Sent:** Sunday, July 16, 2000 11:00 PM  
**Subject:** 2000 Signal Priority Study

July 16, 2000

To: Lodi City Council

Stephen J. Mann, Mayor  
Alan S. Nakanishi, Mayor Pro Tempore  
Susan Hitchcock  
Keith Land  
Phillip A. Pennino

Re: 2000 Signal Priority Study

As a concerned resident, parent, and interested party, I would like to appeal to you as council members to request discussion on the 2000 Signal Priority Study listed as item #6 on the consent calendar for Wed. July 19, 2000 at 7pm.

In reviewing the July 2000 Traffic Signal Priority Study prepared by the City of Lodi Public Works Dept., it has come to my attention that although the Study provides a systematic process for determining which intersections are given priority consideration for a signal, **City Council can choose ANY intersection for installation in the fiscal year 2000/01 regardless of the recommendation of the City of Lodi Public Works Department.**

The intersection of **Century Blvd. and Ham Lane** has been ranked as #8 on the Study with a grant funding application pending approval. I would like the Council to consider overriding the Study and give this busy intersection the priority status it deserves based on the following factors.

1.) **Pedestrian Usage...**The intersection of **Century Blvd. and Ham Lane** provides access to Tokay High School, English Oaks Church, and Beckman Park. All of which feature special public events that produce a high volume of foot traffic such as swim meets, plays, graduations, soccer/T-ball games, weddings, seminars, etc. Not to mention that neighborhood children crossing the intersection (without a crossing guard) Mon. through Fri. mornings on their way to Beckman Elementary, Lodi Middle School, and Tokay High School. The northeast corner is also a Grapeline bus stop. I believe that pedestrian safety should be a high priority on the Study. The intersections ranking #1-#7 on the Study do not have a high volume of foot traffic, if any at all.

2.) **Tokay High Peak Hours...**The intersection on **Century Blvd. and Ham Lane** is difficult to orchestrate during the peak periods immediately before and after school. The intersection resembles a game of human "Frogger" as the students walking to school try and make it safely through the crosswalk. Cars driven by young, inexperienced teen drivers approach the intersection finding it difficult to determine when it is safe to proceed. Often the pedestrian is found stranded on the median waiting for a safe moment to dash across. Someone is going to get seriously injured or killed. Why jeopardize the safety of our community while waiting

7/19/00

for pending funds to fall into place? If you were to witness this morning chaos you would surely agree. We must put this intersection in a place of #1 priority.

A copy of the Study appeared in my mailbox Friday, July 14, 2000. I was disappointed that there was not more time to collect signatures, poll neighbors, and seek some support from the community to strengthen my voice. All I can do at this point is to ask you to refrain final approval for the Harney Lane and Stockton Street signal and consider taking a serious look at the immediate attention that the **Century Blvd. and Ham Lane** intersection deserves. I am counting on the Council to make the right decision. Thank you for your time and consideration.

Sincerely,

Diane Wilbur  
2124 Newbury Circle  
Lodi, CA 95240  
(209) 334-6990

7/19/00

NOTES: City Council Meeting, July 19, 2000\*

In addition to the letter I submitted to the Council on July 16, 2000, there are some bits of information that I would like to bring to your attention for consideration.

According to the Public Works Director, there are currently funds budgeted for *one* signal in the Capital Improvement Project (CIP) for fiscal year 2000/2001.

The Public Works Department gathered daily traffic volumes and reviewed all reported collisions for each intersection in the Study.

The next task involved evaluating each intersection using the Caltrans signal warrants defined on page 1 of the Signal Priority Study. These warrants are published in the Caltrans Traffic Manual. I have printed warrants #1-#11 off of the Caltrans website for your review. (copy is available to Council for their use)

I would like you to review Warrant #3 - Minimum pedestrian volume

The Signal Priority Study indicates that Warrant 3 is difficult to satisfy, and none of the locations met this warrant. (page 1, section II) I believe that Warrant #3 could be satisfied at the intersection at *Century Blvd. and Ham Lane* during the period when school is in session. (Please note on the worksheets that there is a Special Conditions Category. I feel the intersection of *Century Blvd. and Ham Lane* deserves attention concerning this factor.)

I also have found 2 matters of interest on the Traffic Signal Priority Worksheets printed in the Study.

1.) Of the 14 intersections scored by the Public Works Department, the *Century Blvd. and Ham Lane* intersection ranks 2nd in the traffic volume category with a score of 229. The Public Works Department has recommended the intersection of Harney Lane and Stockton Street as its priority choice. I would like you to note that in the traffic volume factor category, the Harney Lane and Stockton Street intersection tied for 6th place with a score of 160.

2.) The speed factor scoring for the Harney Lane and Stockton Street intersection was considered at a speed of 50mph, the highest score on the computation scale. I travel that route to work daily and the speed is clearly posted at 45mph. Please review the calculations.

In conclusion, the City Council can choose any intersection it desires for the coveted signal light regardless of the recommendation of the Lodi Public Works Department. All I ask is that the Council review the Study in its entirety, factor in the concerns of the community, and discuss the matter to its best resolution....public safety.

Diane Wilbur  
2124 Newbury Cir.  
Lodi, CA 95240

# ***Traffic Manual***

## **Chapter 9 - Traffic Signals and Lighting**

---

- 9-01 - Traffic Signals, Basic Information and Warrants
  - 9-02 - Traffic Signal Development Procedures
  - 9-03 - Traffic Signal Design
  - 9-04 - Traffic Signal Operations
  - 9-05 - Flashing Beacons
  - 9-06 - Highway Safety Lighting
  - 9-07 - Freeway Lighting
  - 9-08 - Conventional Highway Lightin
  - 9-09 - Highway Safety Lighting Design Procedures
  - 9-10 - Highway Safety Lighting Design Standards
  - 9-11 - Lighting Standards
  - 9-12 - Luminaires
  - 9-13 - Conduit, Wiring and Circuits
- 

### ***Section 9-01 - Traffic Signals, Basic Information and Warrants***

#### **9-01.1 Introduction**

A traffic signal is an electrically powered traffic control device, other than a barricade warning light or steady burning electric lamp, by which traffic is warned or directed to take some specific action.

The following types and uses of traffic signals are discussed in this chapter: Traffic Control Signals, Pedestrian Crossing Signals, Ramp Metering Signals, Flashing Beacons, Lane-use Control Signals, Traffic Control at Movable Bridges, Priority Control of Traffic Signals, Traffic Signals for One-lane, Two-way Facilities and Traffic Signals for Construction Zones.



Traffic control signals are devices for the control of vehicle and pedestrian traffic. They assign the right of way to the various traffic movements.

Traffic control signals have one or more of the following advantages:

1. They provide for the orderly movement of traffic.
2. They increase the traffic handling capacity of the intersection.
3. They reduce the frequency of certain types of accidents, especially the right angle type.
4. They can be coordinated to provide for continuous or nearly continuous movement of traffic at a definite speed.
5. They permit minor street traffic, vehicular or pedestrian, to enter or cross continuous traffic on the major street.

Experience shows that the number of right-angle collisions may decrease after the installation of signals, but the number of rear-end collisions may increase. The installation of signals may increase overall delay and reduce intersection capacity. Consequently, it is of the utmost importance that the consideration of a signal installation and the selection of equipment be preceded by a thorough study of traffic and roadway conditions made by an engineer experienced and trained in this field. Equally important is the need for checking the efficiency of a traffic signal in operation. This determines the degree to which the type of installation and the timing program meet the requirements of traffic.

### **9-01.2 Traffic Signal Warrants**

The justification for the installation of a traffic signal at an intersection is based on the warrants stated in this Manual and in the Manual On Uniform Traffic Control Devices published by the Federal Highway Administration (FHWA). The decision to install a signal should not be based solely upon the warrants, since the installation of traffic signals may increase certain types of collisions. Delay, congestion, approach conditions, driver confusion, future land use or other evidence of the need for right of way assignment beyond that which could be provided by stop signs must be demonstrated. See Section 4-03 of this Manual for stop sign warrants.

When the 85th percentile speed of traffic on the major street exceeds 64 km/h in either an urban or rural area, or when the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the location is considered rural. All other areas are considered urban.

Figures 9-1, 9-2, 9-3 and 9-4 are examples of warrant sheets. Warrant Sheet 9-4 should be used only for new intersections or other locations where it is not reasonable to count actual traffic volumes.

The installation of a traffic signal should be considered if one or more of the warrants listed below are met:

#### ***A. Warrant 1 - Minimum Vehicle Volume.***

The Minimum Vehicular Volume warrant is intended for application where the volume of intersecting traffic is the principal reason for consideration of a signal installation. The warrant is satisfied when for each of any 8 hours of an average day the traffic volumes given in the table below exist on the major street and on the higher-volume minor street approach to the intersection.

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)		Vehicles per hour on higher-volume minor-street approach (one direction only)	
<i>Major St.</i>	<i>Minor St.</i>	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>
1	1	500	350	150	105
2 or more	1	600	420	150	105
2 or more	2 or more	600	420	200	140
1	2 or more	500	350	200	140

The major street and the minor street volumes are for the same 8 hours. During those 8 hours the direction of higher volume on the minor street may be on one approach during some hours and on the opposite approach during other hours.

#### ***B. Warrant 2 - Interruption of Continuous Traffic.***

The Interruption of Continuous Traffic warrant applies to operating conditions where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or hazard in entering or crossing the major street. The warrant is satisfied when, for each of any 8 hours of an average day, the traffic volumes given in the table below exist on the major street and on the higher-volume minor street approach to the intersection, and the signal installation will not seriously disrupt progressive traffic flow.

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)		Vehicles per hour on higher-volume minor-street approach (one direction only)	
<i>Major St.</i>	<i>Minor St.</i>	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>
1	1	750	525	75	53
2 or more	1	900	630	75	53
2 or more	2 or more	900	630	100	70

4 or more 1	4 or more 2 or more	900 750	850 525	100 100	70 70
----------------	------------------------	------------	------------	------------	----------

The major street and the minor street volumes are for the same 8 hours. During those 8 hours the direction of higher volume on the minor street may be on one approach during some hours and on the opposite approach during other hours.

### ***C. Warrant 3 - Minimum Pedestrian Volume.***

A traffic signal may be warranted where the pedestrian volume crossing the major street at an intersection or mid-block location during an average day is:

100 or more for each of any four hours; or

190 or more during any one hour.

The pedestrian volume crossing the major street may be reduced as much as 50% of the values given above when the predominant pedestrian crossing speed is below 1 m/s.

In addition to a minimum pedestrian volume of that stated above, there shall be less than 60 gaps per hour in the traffic stream of adequate length for pedestrians to cross during the same period when the pedestrian volume criterion is satisfied. Where there is a divided street having a median of sufficient width for the pedestrian(s) to wait, the requirement applies separately to each direction of vehicular traffic.

Where coordinated traffic signals on each side of the study location provide for platooned traffic which result in fewer than 60 gaps per hour of adequate length for the pedestrians to cross the street, a traffic signal may not be warranted.

This warrant applies only to those locations where the nearest traffic signal along the major street is greater than 90 m and where a new traffic signal at the study location would not unduly restrict platooned flow of traffic. Curbside parking at non-intersection locations should be prohibited for 30 m in advance of and 6 m beyond the crosswalk.

A signal installed under this warrant should be of the traffic-actuated type with push buttons for pedestrians crossing the main street. If such a signal is installed within a signal system, it shall be coordinated if the signal system is coordinated.

Signals installed according to this warrant shall be equipped with pedestrian indications conforming to requirements set forth in other sections of this Manual.

### ***D. Warrant 4 - School Areas.***

See Chapter 10 of this Manual.

***E. Warrant 5 - Progressive Movement.***

The Progressive Movement warrant is satisfied when:

1. On a one-way street or on a street which has predominantly unidirectional traffic, adjacent signals are so far apart that the necessary degree of platooning and speed control of vehicles would otherwise be lost; or
2. On a two-way street, where adjacent signals do not provide the necessary degree of platooning and speed control and the proposed and adjacent signals could constitute a progressive signal system.

The installation of a signal according to this warrant should be based on the 85th percentile speed unless an engineering study indicates that another speed is more desirable.

The installation of a signal according to this warrant should not be considered where the resultant signal spacing would be less than 300 m.

***F. Warrant 6 - Accident Experience.***

The Accident Experience warrant is satisfied when:

1. Five or more reported accidents of types susceptible to correction by traffic signal control have occurred within a 12-month period, each accident involving personal injury or property damage to an apparent extent of \$500 or more; AND
2. Adequate trial of less restrictive remedies with satisfactory observance and enforcement has failed to reduce the accident frequency; AND
3. There exists a volume of vehicular traffic not less than 80% of the requirements specified in the Minimum Vehicular Volume Warrant or the Interruption of Continuous Traffic Warrant; AND
4. The signal installation will not seriously disrupt progressive traffic flow.

***G. Warrant 7 - Systems Warrant.***

A traffic signal installation at some intersections may be warranted to encourage concentration and organization of traffic flow networks. The systems warrant is applicable when the common intersection of two or more major routes has a total existing, or immediately projected, entering volume of at least 1,000 vehicles during the peak hour of a typical weekday, or each of any five hours of a Saturday and/or Sunday.

A major route as used in the above warrant has one or more of the following characteristics:

1. It is part of the street or highway system that serves as the principal network for through traffic flow;
2. It includes rural or suburban highways outside of, entering or traversing a city; or
3. It appears as a major route on an official plan such as a major street plan in an urban area traffic and transportation study.

***H. Warrant 8 - Combination of Warrants,***

In exceptional cases, a signal may be justified where no single warrant is satisfied but where Warrants 1 and 2 are satisfied to the extent of 80 percent or more of the stated numerical values.

***I. Warrant 9 - Four Hour Volume Warrant.***

The Four Hour Volume Warrant is satisfied, when for each of any four hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher volume minor street approach(one direction only) all fall above the curve in Figure 9-6 for the existing combination of approach lanes.

When the 85th percentile speed of the major street traffic exceeds 64 km/h, or when the intersection lies within a built-up area of an isolated community having a population of less than 10,000, the four hour volume requirement is satisfied when the plotted points referred to fall above the curve in Figure 9-7 for the existing combination of approach lanes.

***J. Warrant 10 - Peak Hour Delay Warrant.***

The Peak Hour Delay Warrant is intended for application where traffic conditions are such that for one hour of the day, minor street traffic suffers undue delay in entering or crossing the major street. The peak hour delay warrant is satisfied when the conditions given below exist for one hour (any four consecutive 15-minute periods) of an average weekday. The peak hour delay warrant is met when:

1. The total delay experienced by traffic, on one minor street approach controlled by a STOP sign, equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND
2. The volume on the same minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.

#### ***K. Warrant 11 - Peak Hour Volume Warrant.***

The Peak Hour Volume Warrant is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street.

The peak hour volume warrant is satisfied when the plotted point, representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day, falls above the curve in Figure 9-8 for the existing combination of approach lanes.

When the 85th percentile speed of major street traffic exceeds 64 km/h, or when the intersection lies within a built-up area of an isolated community having a population of less than 10,000, the peak hour volume warrant is satisfied when the plotted point, referred to above, falls above the curve in Figure 9-9 for the existing combination of approach lanes.

#### **9-01.3 Guidelines for Left-Turn Phases**

Since separate signal phases for protected left turns will reduce the green time available for other phases, alternate means of handling left turn conflicts should be considered first.

TO: COUNCIL  
DATE: JULY 19, 2000  
RE: 2000 SIGNAL PRIORITY STUDY

---

Eileen Denny, 367-0654, called the City Clerk's Office this afternoon and asked us to inform Council that she is in favor of traffic signals at the following locations:

Harney Lane @ Stockton Street  
Lodi Avenue @ Mills Avenue  
Elm Street @ Mills Avenue

She resides on Mills Avenue between Lodi and Elm and often times cannot exit her driveway because of the heavy flow of traffic and high speed of drivers.

jmp

CITY COUNCIL

STEPHEN J. MANN, Mayor  
ALAN S. NAKANISHI  
Mayor Pro Tempore  
SUSAN HITCHCOCK  
KEITH LAND  
PHILLIP A. PENNINO

CITY OF LODI  
PUBLIC WORKS DEPARTMENT

CITY HALL, 221 WEST PINE STREET  
P.O. BOX 3006  
LODI, CALIFORNIA 95241-1910  
(209) 333-6706  
FAX (209) 333-6710  
EMAIL pwdept@lodi.gov  
<http://www.lodi.gov>

July 13, 2000

H. DIXON FLYNN  
City Manager  
SUSAN J. BLACKSTON  
City Clerk  
RANDALL A. HAYS  
City Attorney  
RICHARD C. PRIMA, JR.  
Public Works Director

Mr. Frank Biglow, Police Services  
Lodi Unified School District  
1305 East Vine Street  
Lodi, CA 95240

Interested Parties — *mailing list  
attached*

SUBJECT: Approve 2000 Signal Priority Study and Authorize Design of Signal and  
Street Lighting at Harney Lane and Stockton Street

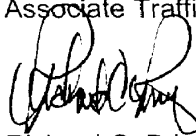
Enclosed is a copy of background information on an item on the City Council  
agenda of Wednesday, July 19, 2000. The meeting will be held at 7 p.m. in the  
City Council Chamber, Carnegie Forum, 305 West Pine Street.

This item is on the consent calendar and is usually not discussed unless a  
Council Member requests discussion. The public is given an opportunity to address  
items on the consent calendar at the appropriate time.

If you wish to write to the City Council, please address your letter to City Council,  
City of Lodi, P. O. Box 3006, Lodi, California, 95241-1910. Be sure to allow time for the  
mail. Or, you may hand-deliver the letter to City Hall, 221 West Pine Street.

If you wish to address the Council at the Council Meeting, be sure to fill out a speaker's  
card (available at the Carnegie Forum immediately prior to the start of the meeting) and  
give it to the City Clerk. If you have any questions about communicating with the  
Council, please contact Susan Blackston, City Clerk, at (209) 333-6702.

If you have any questions about the item itself, please call Rick Kiriu,  
Senior Engineering Technician, at (209) 333-6800, ext. 2668, or Paula Fernandez,  
Associate Traffic Engineer, at (209) 333-6800, ext. 2667.



Richard C. Prima, Jr.  
Public Works Director

RCP/lm

Enclosure

cc: City Clerk



JUDY WEIGUM  
589 CROSS ST  
LODI CA 95242

L B LIGHTS WEST INC  
2475 MAGGIO CR  
LODI CA 95240

RENE VERSIC  
918 LLOYD ST  
LODI CA 95240

DIANE WILBUR  
2124 W NEWBURY CR  
LODI CA 95240

EILEEN DENNY  
132 S MILLS AVE  
LODI CA 95242

DAVE WARNER  
711 WILLOW GLEN DR  
LODI CA 95242

KEN & DEBRA HAZELET  
13409 N STOCKTON ST  
LODI CA 95240

HAPPY HOURS PRESCHOOL  
CINDY BRUHN  
444 W TURNER RD  
LODI CA 95240

PETE HETZNER  
611 S ATHERTON DR  
LODI CA 95242

JUDY BUNCE  
1037 LINCOLN AVE  
LODI CA 95240

REESE ELEMENTARY SCHOOL  
JOAN MORRISON PRINCIPAL  
1800 W ELM ST  
LODI CA 95242

URSULA ROESCH  
1223 MIDVALE RD  
LODI CA 95240

MARGARET THOMPSON  
2009 W LODI AVE  
LODI CA 95242

JENNIE BARANICK  
1651 S CHEROKEE LN  
LODI CA 95240

CHEROKEE RETAIL ASSN  
ATTN CAROL GAVETTE  
14651 S BASCOM AVE STE 280  
LOS GATOS CA 95032

HIDI HINKLE  
438 YOKUTS DR  
LODI CA 95240

CAROL GOEHRING  
1227 EDGEWOOD DR  
LODI CA 95240